

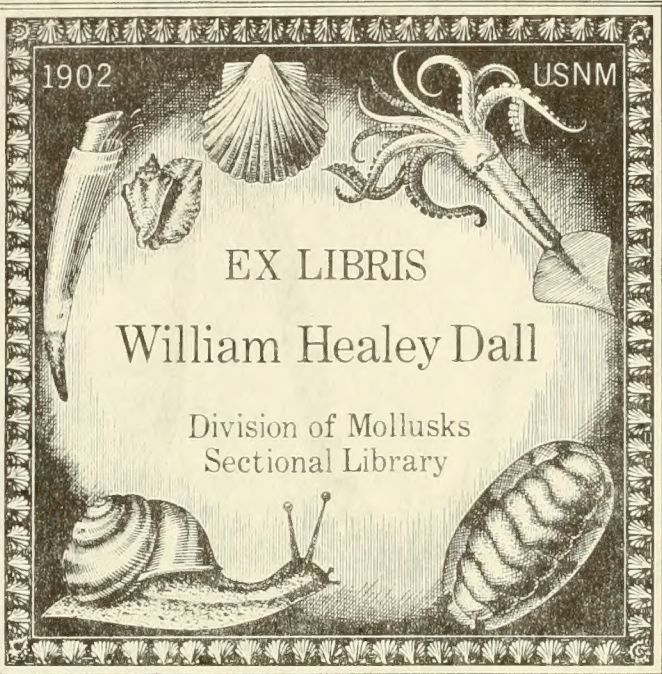
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CONCHOLOGIA ICONICA:

OR,

ILLUSTRATIONS

OF THE

SHELLS OF MOLLUSCOUS ANIMALS.

VOL. III.

CONTAINING MONOGRAPHS OF THE GENERA

MUREX

MANGELIA

MONOCEROS

CYPRÆA

PURPURA

BULLIA

HALIOTIS

RICINULA

BUCCINUM

BY

LOVELL AUGUSTUS REEVE, F.L.S., F.Z.S.

AUTHOR OF 'CONCHOLOGIA SYSTEMATICA', 'ELEMENTS OF CONCHOLOGY', &c.

"What thanks sufficient, or what recompense
Equal, have I to render thee, divine
Historian, who thus vouchsafed
This friendly condescension to relate
Things else by me unsearchable; now heard
With wonder and delight."—*Milton*.

LONDON:

REEVE, BROTHERS, KING WILLIAM STREET, STRAND.

1845.



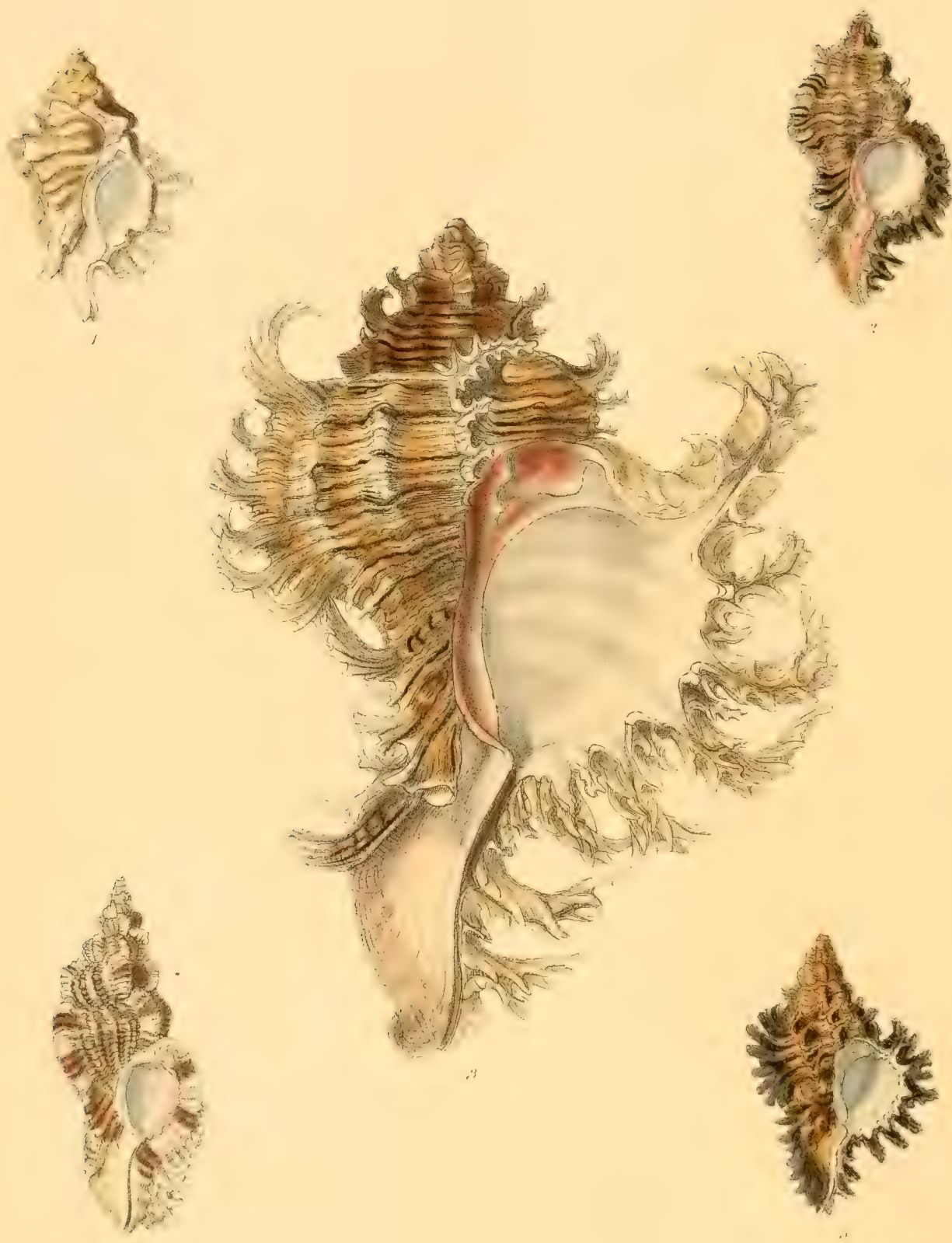
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MONOGRAPH

OF THE GENUS

M U R E X.

“ For Nature here
Wanton'd as in her prime, and play'd at will
Her virgin fancies, wild above rule or art.”—*Milton*.



MUREX.

PLATE I.

Genus MUREX, Linnæus.

Testa ovata vel oblonga, sæpius pyriformis, aut plus minusve fusiformis, spirā subangulato-turritā; anfractibus leviter ventricosis, varicosis, varicibus tribus aut pluribus, frondibus ramosis vel foliatis vel spinosis ornatis; columellā lævi, arcuatā, in canalem nunc brevissimum recurvum, nunc longissimum tubulosum desinente; aperturā suborbiculari, labro externo plerumque denticulato aut crenato, dente unico prominulo erecto infra medium interdum armato. Operculum corneum.

Shell ovate or oblong, generally pyriform, or more or less fusiform, spire somewhat angularly turreted; whorls slightly ventricose, varicose, varices three or more in number, ornamented with branched, foliated, or spinose fronds; columella smooth, arched, ending in a canal which is sometimes very short and recurved, sometimes very long and tubulous; aperture nearly orbicular, outer lip generally denticulated or crenated, and sometimes armed beneath the middle with an erect prominent tooth. Operculum horny.

The genus Murex, as at present constituted, contains but a very limited number of the species referred to it by its founder. After having been liberally dismembered by Brugière and Lamarck for the formation of the genera *Cerithium*, *Turbinella*, *Cancellaria*, *Fasciolaria*, *Fusus*, *Pleurotoma* and *Pyrula*, there yet remained a considerable portion that were characterized by their different varieties of varicose growth; and of these Lamarck established the genera *Ranella*, *Triton* and *Murex*. The first for the reception of the species in which exactly two varices are deposited on a whorl, the second for those having a smaller number, and the third for such as have a larger number. The genus therefore under consideration includes all the varicose Canaliferous Gastropods which deposit a marginal varix at three or more intervals during every volution of increase round their columellar axis. As, in all arbitrary varieties of classification, however, there is great difficulty in determining the limit of the genus. The *Murex*, with numerous light and immaturesly formed varices, is scarcely to be generically distinguished from the *Fusus* with its successive layers or ridges. The *Murices Magellanicus*, *salebrosus* and *Belcheri* are of this anomalous character; although, I consider the last-mentioned species, described by Mr. Hinds in the 'Zoology of the Sulphur,' to present many more characters in common with those of *Pyrula* than of *Murex*, and do not hesitate to refer it to that genus.

The *Murices* are greatly distinguished by the ornamental and varied structure of the varices; and when it is considered what an impediment the numerous spines and

frondose ramifications must offer to their revolving process of growth, it becomes interesting to notice in what manner this emergency is provided for. The animal inhabitant has the power of removing these obstacles to its growth by the use of a powerful solvent. In the *Murex cornutus*, for example, may be commonly observed, on the left of the upper portion of the columella, the remains of a spine which has been abraded and removed at its base to make way for the approaching deposit of the increasing whorl.

The genus *Murex* has been so recently illustrated by Mr. Sowerby in his 'Conchological Illustrations,' and by M. Kiener in his 'Iconographie des Coquilles vivantes,' that I have not many new species to be added; there are, however, some important errors to be emended in the works of both authors.

Species 1. (Mus. Cuning.)

MUREX EMARGINATUS. *Mur. testā ovatā, spirā breviusculā, acuminatā, suturis rudis, undatis; anfractibus senis, supernè angulatis, læviusculis, inter varices conspicuè tuberculatis, transversim obsoletè costatis; trifariam varicosā, varicibus obtuso-fimbriatis, solidiusculis; albidā, ferrugineo-fuscescente tinctā; labro externo dente unico parvo, planulato, anticè armato; canali brevi, clauso, obliquè recurvo.*

THE EMARGINATED MUREX. Shell ovate, spire rather short, acuminate, sutures rude, waved; whorls six in number, angulated at the upper part, rather smooth, conspicuously tuberculated between the varices, transversely obsoletely ribbed; three-varicose, varices obtusely fimbriated, rather solid; whitish, stained with pale rusty brown; outer lip armed anteriorly with a single small flattened tooth; canal short, closed, obliquely recurved.

SOWERBY, Pro. Zool. Soc., 1840; Conch. Illus. f. 98 and 100. Hab. — ?

The entire surface of this shell has the appearance of being very minutely indented. The oblique turn of the canal is characteristic, and so also is the prominent development of the tubercles between the varices.

Species 2. (Mus. Cuning.)

MUREX LACINIATUS. *Mur. testā oblongo-ovatā, subfusiformi, basem versus contractā, spirā mediocri, suturis subimpressis; anfractibus senis, inter varices bituberculatis, transversim liratis, liris parvis, subscabrosis, distantibus, tribus basalibus fortioribus; trifariam varicosā, varicibus ereberrimè crispifoliatis, foliis basem versus frondiformibus, subspinosis; rosaceo-fuscescente,*

varicibus castaneo-maculatis, columellâ apice canalique purpureo-roseis; aperturâ rotundâ, labro externo crenulato.

THE LACINIATED MUREX. Shell oblong-ovate, somewhat fusiform, contracted towards the base, spire middling, with the sutures somewhat impressed; whorls six in number, with two tubercles between each varix, transversely ridged, ridges small, somewhat scabrous, distant, the three basal ridges stronger than the rest; three-varicose, varices very closely crisply foliated, the foliations being frond-like and somewhat spinous towards the base; pinkish brown, varices spotted with chestnut brown, columella apex and canal purple rose; aperture rounded, outer lip crenulated.

SOWERBY, Conchological Illustrations, f. 59.

Eadem. *Murex scabrosus*, Sowerby, Conch. Illus. f. 73.

Hab. Island of Ticao, Philippines; Cuming.

This is a very interesting species; the varices appear to consist of a number of foliated laminæ closely pressed together, and the ridges which on the body of the shell are very small, on the varices are developed with peculiar force. The three basal ridges are, however, much stronger throughout than any of the rest. Mr. Sowerby has erroneously described a mutilated example of his *Murex laciniatus* for a new species, under the name of *Murex scabrosus*.

Species 3. (Mus. Saul.)

MUREX RAMOSUS. *Mur. testâ trigono-ovatâ, ventricosâ, spirâ breviusculâ; anfractibus senis, tuberculis plurimis inter varices armatis, transversim obsolete liratis et creberrimè elevato-lineatis; trifariam varicosâ, varicibus conspicuè frondosis, frondibus maximis, curvis, canaliculatis, inciso-serratis; albâ, fusco pallidè nebulosâ, lineis transversis elevatis fuscis, columellâ labrique externi limbo rosaceis; canali breviusculo, planulato, recurvo.*

THE BRANCHED MUREX. Shell triangularly ovate, ventricose, spire rather short; whorls six in number, armed between the varices with several tubercles, transversely obsolete ridged and elevately lineated; three-varicose, varices conspicuously frondose, fronds very large, curved, canaliculated, deeply serrated; white, faintly clouded with brown, transverse raised lines brown, columella and edge of the outer lip rose-pink; canal rather short, flattened, recurved.

LINNÆUS, Mus. Ludovicæ Ulricæ reginæ.

Murex inflatus, Lamarck.

Hab. Eastern Seas.

Lamarck distinguished this large and well-known species by the new title of *Murex inflatus*, because, judging from the various references which Linnæus quoted in illustration of his *Murex ramosus* in the 'Systema Naturæ,' he appeared

to have confounded several species together. This is, however, without doubt, the shell he had under consideration; and the original name should be preserved, especially when we learn, upon the testimony of M. Deshayes, that in the 'Mus. Lud. Ulricæ reginæ' the references and synonymy are correct.

Species 4. (Mus. Cuming.)

MUREX TRIQUETER. *Mur. testâ elongato-ovatâ, subfusiformi, spirâ turratâ; anfractibus octonis, longitudinaliter plicatis, transversim liratis, liris angustis, subacutis, basem versus rotundatis, impresso-striatis; trifariam varicosâ, varicibus posticè obtuso-rotundatis, anticè, propè ad canalem, egregiè laminato-frondosis; albidâ, roseo tinctâ, fusco maculatâ et nebulosâ; canali brevi.*

THE THREE-ANGLED MUREX. Shell elongately ovate, somewhat fusiform, spire turreted; whorls eight in number, longitudinally plicated, transversely ridged, ridges narrow, rather sharp, rounded towards the base, impressly striated; three-varicose, varices posteriorly obtusely rounded, anteriorly, near the canal, eminently laminately frondose; white, tinged with rose, spotted and clouded with brown; canal short.

BORN, Mus. Cæs. p. 291. pl. 11. f. 1, 2.

Murex trigonulus, Enc. Méth.; Kiener.

Hab. Philippine Islands; Cuming.

The *Murices triqueter* and *trigonulus* are figured in the 'Encyclopédie Méthodique' and in Kiener's 'Icon. Coq. viv.' one for the other, and *vice versâ*.

Species 5. (Mus. Cuming.)

MUREX ANGULARIS. *Mur. testâ ovatâ, subventricosâ, spirâ parvâ, acuminatâ; anfractibus senis, transversim elevato-striatis, striis leviter scabrosis; octofariam varicosâ, varicibus regulariter obtuso-frondosis, frondibus erectis, subdistantibus; nigricante-fuscâ, apicem versus pallidiore; canali brevi.*

THE ANGULAR MUREX. Shell ovate, rather ventricose, spire small, acuminate, whorls six in number, transversely elevately striated, striæ scabrous; eight-varicose, varices regularly obtusely frondose, fronds erect, somewhat distant; dark brown, paler towards the apex; canal short.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 595.

Hab. Senegal.

In this species the varices are extremely variable, and when only few in number impart an angular structure to the shell; in one of the specimens before me, for example, in which there are only five varices on a whorl, it assumes the form of a pentagon.



MUREX.

PLATE II.

Species 6. (Mus. Taylor.)

MUREX BIPINNATUS. *Mur. testā elongato-fusiforimi, spirā acuminato-turritā; anfractibus septenis, transversim eximie liratis, et elevato-striatis, liris striis et interstitiis subtilissimè scabroso-crenulatis, anfractibus primis senis tuberculato-nodosis, ultimo trivariicoso, varicibus ultimis duobus pulcherrimè fimbriato-pinnatis; niveā, rosaceo tinctā, columellā pallidè roseā; aperturā parvā, labri externi limbo minutè denticulato; canali latiusculo, subelongato.*

THE TWO-WINGED MUREX. Shell elongately fusiform, spire acuminately turreted; whorls seven in number, transversely delicately ridged and elevately striated, ridges striae and interstices very finely scabrously crenulated, first six whorls tuberculously noded, last whorl three-varicose, last two varices very beautifully fimbriately winged; snowy white, tinged with rose, columella pale rose; aperture small, edge of the outer lip minutely denticulated; canal rather broad, a little elongated.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

I am much indebted to Mr. Taylor for the loan of this very interesting shell, and readily adopt a name which that gentleman kindly suggests, as indicating the peculiarity of there being no appearance of frill structure except upon the last two varices. The spire exhibits a mass of prominent nodules, each whorl taking the form of a heptagon with as many as seven on its circumference. In general form the *Murex bipinnatus* approaches the *Murex clavus*; it will, however, be observed on reference to that species that the detail of structure and sculpture is distinct throughout.

Species 7. (Mus. Cuming.)

MUREX MONOCEROS. *Mur. testā subtrigono-ovatā, spirā breviusculā, acutā, suturis impressis; anfractibus senis, inter varices tuberculato-nodosis, transversim elevato-striatis, striis scabrosis; trifariam varicosā, varicibus obtuso-rotundatis, nodiferis, posticè anticèque laminatis; albidā, glauco-fuscescente tinctā, aperturæ fauce pallidissimè purpurascens-roseā; canali brevi; aperturā ovatā, labro intus fortiter tuberculato-dentato, limbo minutè denticulato, denticulo uno aut pluribus conspicuè erectis.*

THE MONOCEROS-LIKE MUREX. Shell somewhat triangularly ovate, spire rather short, sharp, with the sutures impressed; whorls six in number, tubercularly noded between the varices, transversely elevately striated, striae scabrous; three-varicose, varices obtusely rounded, nodiferous, posteriorly and anteriorly laminated; whitish, stained with glaucous brown, interior of the aperture very faintly tinged with purple rose; canal short; aperture ovate, lip strongly tubercularly toothed within, edge minutely denticulated, one or more of the teeth being conspicuously erect.

SOWERBY, Pro. Zool. Soc., 1840.

Murex Nuttallii? Conrad.

Hab. California.

The minute scabrous sculpture of this shell is very characteristic, and so is also the obtuse stunted tubercular structure of the varices. The marginal tooth is unusually prominent.

Species 8. (Mus. Cuming.)

MUREX SAXATILIS. *Mur. testā subpyriformi, ventricosā, spirā mediocri; anfractibus transversim liratis et elevato-striatis, striis subundulatis et granosis; sexfariam varicosā, varicibus frondosis, frondibus posticis anticisque grandibus simplicibus foliaceis, canaliculatis, erecto-curvatis, medianis multo brevioribus; fuscā vel aurantio-rubrā, columellā canalicque vividè roseo-rubentibus, aperturæ fauce radiatā; canali compresso, recurvo.*

THE ROCK-INHABITING MUREX. Shell somewhat pyriform, ventricose, spire middling; whorls transversely ridged and elevately striated, striae slightly waved and granose; six-varicose, varices frondose, posterior and anterior fronds large, simple, foliaceous, canaliculated, erectly curved, middle fronds much shorter; brown or orange-red, columella and canal bright pinkish red, aperture radiated with the same colour; canal compressed, recurved.

LINNÆUS, Syst. Nat. (Gmelin's edit.) p. 3529.

Hab. Eastern Seas.

The shell which I have selected for the illustration of this beautiful and well-known species, is one of the rich orange-red variety. The ordinary colour of the outer surface is a light fulvous brown.

Species 9. (Mus. Cuming.)

MUREX CLAVUS. *Mur. testā elongato-fusiformi, spirā trigono-turritā, squamis erecto-recurvis ad angulos apicem versus uncinatā; anfractibus octonis, trigonis, lævibus, aut obsoletè liris et striatis, inter varices tuberculato-plicatis; trivariicosā, varice ultimo marginali latissimè fimbriato-pinnato; niveā, roseo tinctā, columellā pallidè roseā; canali subelongato; aperturā parvā, labro externo denticulato.*

THE RUDDER MUREX. Shell elongately fusiform, spire triangularly turreted, armed at the angles towards the apex with erectly recurved hook-like scales; whorls eight in number, three-sided, smooth or obsoletely ridged and striated, tubercularly plicated between the varices; three-varicose, the last marginal varix very broadly fimbriately winged; snowy white, tinged with rose; canal rather elongated; aperture small, outer lip denticulated.

KIENER, *Icon. Coq. viv.* p. 111. pl. 37. f. 2.

Murex uncinarius, Sowerby (not of Lamarck).

Hab. Island of Masbate, Philippines; Cuming.

A characteristic figure of this remarkable species was published by Martini nearly seventy years since, in the 'Conchylien Cabinet,' but no further illustration of it appeared until it was recently figured in the 'Conchological Illustrations.' Mr. Sowerby there describes it as the *Murex uncinarius* of Lamarck, but as M. Kiener has since shown that species to be another and of very different character, I feel much pleasure in adopting his name. The error into which Mr. Sowerby had fallen was, no doubt, occasioned by Lamarck's referring his *Murex uncinarius* to Martini's figure of this shell; and eleven lines being the measurement given of it, Mr. Sowerby, and even Lamarck himself,

may have suspected that the *Murex uncinarius* was merely an example of the shell under consideration in a very early stage of growth.

The nearest allied species to the *Murex clavus* is that which I have just described under the new title of *Murex bipinnatus*; in that species the whorls are tuberculated, not hooked, and of a heptagonal form; in this, they are distinctly three-sided and conspicuously hooked at the angles; the laminated frills of the two species are also different.

Species 10. (Mus. White.)

MUREX CAPUCINUS. *Mur. testā elongato-ovatā, fusiformi-turritā, crassiusculā; anfractibus transversim subirregulariter liris; trifariam varicosā, varicibus multilamellatis, lamellis brevibus, compressis, externā foliatā, recurvā; atro-fuscā, columellā albidā; canali depresso, breviusculo; labro externo intus denticulato.*

THE CAPUCHIN MUREX. Shell elongately ovate, fusiformly turreted, rather thick; whorls transversely somewhat irregularly ridged; three-varicose, varices many-lamellated, lamellæ short, compressed, the outer lamella foliated, recurved; black-brown, columella whitish; canal depressed, rather short; outer lip denticulated within.

CHEMNITZ, *Conch. Cab.* vol. xi. pl. 192. f. 1849-50.

An eadem. *Murex quadrifrons*, Lamarck.

Hab. Philippine Islands (found at the root of Mango trees on the shore); Cuming.

This species may be recognised by the peculiar compressed laminated structure of the varices. There is little doubt, I think, but that Lamarck's *Murex quadrifrons* is merely an accidental four-varicose variety of this species.



11



12



13



14



15

MUREX.

PLATE III.

Species 11. (Mus. Cuming.)

MUREX ERINACEUS. *Mur. testā subfusiformi-ovatā, spirā mediocri; anfractibus supernè angulatis, inter varices tuberculatis, transversim fortiter costatis, costis rotundato-tumidis, leviter undatis, interstitiis minutissimè squamuloso-rugosis, lirā parvā squamulosā sæpè interveniente; quadrifariam ad septifariam varicosā, varicibus valdè irregularibus, nunc frondosis, nunc fimbriato-lamellatis; albido-fulvā; canali brevi, clauso, subre-curvo.*

THE HEDGE-HOG MUREX. Shell somewhat fusiformly ovate, spire middling; whorls angulated at the upper part, slightly tuberculated between the varices, transversely strongly ribbed, ribs rotundately swollen, slightly waved, interstices very minutely squamulously rugose, with a small squamulous ridge running through; four- or seven-varicose, varices very irregular, sometimes frondose, sometimes fimbriately lamellated; white, stained with pale fulvous brown; canal short, closed, a little recurved.

LINNÆUS, Syst. Nat. (Gmelin's edit.), p. 3530.

Variety β.

Testa varicibus incrassatis, solidis; costis transversis angustis, valdè obscurioribus.

Shell with the varices thickened, solid; transverse ribs narrow, much more obscure.

Murex Tarentinus, Lamarck, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 593. Kiener, Iconographie des Coquilles vivantes, pl. 44. f. 2.

Variety γ.

Testa nunc varicosa, nunc evaricosa; anfractibus supernè albicingulatis.

Shell sometimes varicose, sometimes without varices; whorls encircled with a white belt round the upper part.

Murex cinguliferus, Lamarck, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 597. Kiener, Iconographie des Coquilles vivantes, pl. 30. f. 2.

Hab. Mediterranean, and coast of France and Britain, (found at low water and at depths varying to fourteen fathoms).

This species, like the *Murices trunculus* and *brandaris*, which inhabit the same sea, is extremely variable in growth,

some examples having as many as seven varices, whilst others exhibit nothing more than a row of almost obsolete plicated laminae. In the variety β, which Lamarck distinguished as the *Murex Tarentinus*, the laminae of each varix, instead of being raised like a festooned frill, as in the type of the species, are pressed down and, as it were, solidified between the ribs; whilst the ribs are narrower and more obscure. The variety γ is chiefly distinguished by a conspicuous white belt encircling the ribs at the angle, the sculpture being in most respects like that of the variety β. This is much the scarcest state of the species; it is very well represented by M. Kiener as the *Murex cinguliferus*, and I have a small but equally characteristic specimen from the collection of Thomas Norris, Esq.

Species 12. (Mus. White.)

MUREX FOLIATUS. *Mur. testā ovato-oblongā, spirā breviusculā; anfractibus transversim costatis, costis parvis, compressis, subdistantibus, interstitiis levibus; trifariam varicosā, varicibus tenuibus, erecto-foliatis; albidā, castaneo-fusco fasciatā; aperturā parvā, labro columellari simplici, externo denticulato, dente unico planato infernè armato; canali brevi, plano-compresso, clauso.*

THE FOLIATED MUREX. Shell ovately oblong, spire rather short; whorls transversely ribbed, ribs small, compressed, somewhat distant, interstices smooth; three-varicose, varices thin, erectly foliated; whitish, banded with chesnut brown; aperture small, columellar lip simple, outer lip denticulated, armed at the lower part with a small flattened tooth; canal short flatly compressed, closed.

Gmelin, Syst. Nat. p. 3529.

Purpura foliata, Martyn, Univ. Conch. pl. 66.

Murex purpura alata, Chemnitz, Conch. Cab. vol. x. p. 250. pl. 160. f. 1538-9.

Hab. Island of Sitka, north-west coast of America (found in rocky places); Escholtz.

Lamarck committed a grand error in referring to Chemnitz's admirable figure of this species for the illustration of the *Murex tripterus* of Born; and Kiener, confiding with his usual fidelity in the purity of Lamarck's labours, has not failed to repeat it. M. Deshayes has, however, published the *Murex foliatus* in his recent edition of the 'Animaux sans vertèbres,' with an accurate citation of its synonymes, and the species is no longer veiled with any obscurity.

Species 13. (Mus. Taylor.)

MUREX CALCITRAPA. *Mur. testā trigono-fusiformi, crassā, solidiusculā, spirā turritā; anfractibus supernè depressiusculis, transversim striatis et sulcatis, inter varices tuberculatis; trifariam varicosā, varicibus biseriatim frondosis frondium serie alterā minutā, alterā prominente, frondibus crassiusculis, irregularibus, duabus anticis majoribus; rufescente-castaneā, lineis balteisve angustis nigerrimo-fuscis cingulatā; canali subelongato, compresso, leviter recurro.*

THE CALTROP MUREX. Shell triangularly fusiform, thick, rather solid, spire turreted; whorls rather depressed at the upper part, transversely striated and grooved, tuberculated between the varices; three-varicose, varices composed of a double row of fronds, one of which is minute, the other prominent with the fronds rather thick and irregular, the two most anterior being larger than the rest; reddish-chesnut, encircled with narrow blackish-brown lines or narrow belts; canal rather elongated, compressed, slightly recurved.

LAMARCK, *Anim. sans vert.* (Deshayes' edit.), vol. ix. p. 573.

Hab. Red Sea (found on the coral reefs); Rüppell.

Variety β .

Testa plerumque brevior; albā, lineis rubido-fuscis cincta.

Shell generally shorter; white, encircled with reddish brown lines.

Murex brevifrons, Lamarck, *Anim. sans vert.* vol. ix. p. 573.

Purpura frondosa fasciata, Martini.

Hab. West Indies (found on the coral reefs).

There can be little doubt but that Lamarck's *Murex brevifrons* is a white variety of his *Murex calcitrapa*, inhabiting a different locality; although their close affinity is not commented upon by M. Deshayes. It is a thick, rather ponderous looking species, well characterized by the brown lines and belts which cross the interstices between the varices. Some specimens are thin, and more frondose.

It may be interesting to know that the caltrop was an instrument of war, which the ancients scattered on the field of battle in order to wound the feet of the enemies' horse. It was a small iron weapon constructed of three sides, with a row of sharp spikes down each angle, such as may be suggested by the three-varicose structure of the shell under consideration. If thrown with skill over the enemies quarters, a shower of caltrops must have proved very annoying,

because, upon whatever side the instrument fell, a row of spikes would stand uppermost.

Species 14. (Mus. Cuming.)

MUREX ROSARIUM, Var. β . For description of which see PLATE VIII.

Species 15. (Mus. Cuming.)

MUREX TURBINATUS. *Mur. testā ovato-turbinatā, spirā brevi, conicā; anfractibus supernè angulatis, transversim liris impresso-striatis, alternis majoribus; sex-fariam varicosā, varicibus obtuso-rotundatis, ad angulum conspicuè spinoso-tuberculatis, basem versus submuricato-tuberculatis; albidā, fasciis rufescente-fuscis tribus interruptis varices super tinctā, columellā pallidè rosaceā; canali breviusculo.*

THE TURBINATED MUREX. Shell ovately turbinated, spire short, conical; whorls angulated at the upper part, transversely ridged, ridges impressly striated, alternate ridges the larger; six-varicose, varices obtusely rounded, conspicuously spinosely tubercled at the angle, somewhat prickly tubercled at the base; whitish, stained, upon the varices only, with three interrupted reddish brown bands, columella faintly tinged with pink; canal rather short.

LAMARCK, *Anim. sans vert.* (Deshayes' edit.) vol. ix. p. 586.

Kiener, *Icon. Coq. viv.* pl. 22. f. 1.

Hab. Mouth of the Gambia, East coast of Africa.

The varices of this somewhat rare species are probably rather variable in number; in the specimen before me there are only six on a whorl; Lamarck mentions seven, and Kiener, who transcribes Lamarck's Latin diagnose of the species, enumerates eight in his summary of the specific characters. The aperture of this shell is lined with pure white, and the columella with pink enamel.

Mr. Sowerby, jun., has unfortunately published a serious category of errors in attempting to illustrate this species; having figured three different shells, of which neither has any reference to it. The shell represented at Fig. 30. of the 'Conchological Illustrations' is an indifferent specimen of the *Murex spinicostata*; that represented at Fig. 90 I have decided, after a long and patient examination of the specimen, to be a worn, curiously stained, tubercled variety of the *Murex trunculus*; and Fig. 91 represents an obscure example of the *Murex endivia*.



10



11



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14



15

MUREX.

PLATE IV.

Species 16. (Mus. Cuming.)

MUREX MAURUS. *Mur. testā trigono-oblongā, utrinque attenuatā, crassiusculā, ponderosā, spirā acuminato-turritā; anfractibus inter varices unduloso-tuberculatis, transversim granuloso-liratis et impresso-striatis, liris alternis majoribus; trifariam varicosā, varicibus incrassatis, rotundatis, basem versus subobsoletè frondosis, frondibus parvis, perpaucis; fuscescente, liris nigricantibus, labrorum limbo roseo, labro externo denticulato; canali breviusculo.*

THE MOOR MUREX. Shell triangularly oblong, acuminately turreted at both ends; whorls undulately tubercled between the varices, transversely granulously ridged and impressly striated, alternate ridges the larger; three-varicose, varices thickened, rounded, somewhat obsoletely frondose towards the base, fronds small, very few in number; pale brown, ridges blackish, edge of the columellar and outer lips tinged with rose, outer lip denticulated; canal rather short.

BRODERIP, Pro. Zool. Soc., 1832.

Hab. Island of Annaa, Pacific Ocean (found on the reefs); Cuming.

M. Deshayes very properly reprimands M. Kiener for asserting that the *Murices maurus* and *rubescens* Broderip, are merely specimens of the *Murex adustus* in a bad state of preservation. "Cela prouve," very truly says the learned editor of the 'Animaux sans vertèbres,' "que M. Kiener n'a pas eu sous les yeux ces espèces du naturaliste anglais." The *Murex maurus* has more the appearance of a stunted immature *Murex palmarosæ* than a *Murex adustus*, from which it differs too manifestly to render any comparison necessary.

Mr. Cuming and Miss Saul both possess specimens of the *Murex maurus* in the finest possible condition, and I feel much pleasure in being enabled to add my testimony to its specific importance. M. Kiener disposes in like manner, of a vast number of the many valuable and characteristic new species of shells collected by Mr. Cuming, and described, from time to time, by Messrs. Broderip and Sowerby, in the 'Proceedings of the Zoological Society,' 1832-42.

Species 17. (Mus. Cuming.)

MUREX OXYACANTHA. *Mur. testā pyriformi, spirā brevi,*

obtusā, suturis cavernosis; anfractibus transversim liratis et inapresso-striatis, liris alternis minimis; niveā, spinis fuscescente tinctis; aperturā parvā, rotundā; canali breviusculo, ad extremitatem recurvo.

THE SHARP-SPINED MUREX. Shell pear-shaped, spire short, obtuse, sutures cavernous; whorls transversely ridged and impressly striated, alternate ridges very small; seven-varicose, varices spined throughout, spines long, erect, canaliculated, alternate spines very small; snowy white, spines stained with pale brown, aperture small, round; canal rather short, recurved at the extremity.

BRODERIP, Pro. Zool. Soc., 1832.

Hab. Real Llejos, Central America (found in sandy mud at the depth of eight fathoms); Cuming.

Each transverse ridge terminates upon the following varix in a lofty erect canaliculated spine, the minute alternate ridges terminating in spines of the same proportion of size.

Miss Saul possesses several specimens of a dwarf variety of this species.

Species 18. (Mus. Cuming.)

MUREX SPINICOSTATA. *Mur. testā pyriformi, nunc oblongā, nunc breviorē, ventricosā; anfractibus supernè biangulatis, transversim liratis et striatis, liris minutis, angustis, subsuperficialibus; seafariam vel septifariam varicosā, varicibus undique spinosis, spinis canaliculatis, subcurvatis, duabus anticis angulos superantibus et duabus tribusve basalibus, longioribus, mucronatis; albā, liris rufo-fuscis, maculis parvis saturatioribus lunulæformibus hic illic tinctis, aperturæ fauce albā, rubido sparsim maculatā; canali subelongato, interdum breviorē, recurvo.*

THE SPINE-RIBBED MUREX. Shell pear-shaped, sometimes oblong, sometimes shorter and ventricose; whorls bi-angulated at the upper part, transversely ridged and striated, ridges minute, narrow, rather superficial; six- or seven-varicose, varices armed with frond-like spines throughout, spines canaliculated, slightly curved, the basal and those upon the posterior angles, longer, sharp-pointed; white, ridges reddish brown, stained here and there with small crescent-shaped spots of a deeper colour, interior of the aperture white,

stained in places with ruddy spots; canal rather elongated, sometimes shorter, recurved.

VALENCIENNES, Kiener, Icon. Coq. viv. p. 49. pl. 41. f. 1.
Hab. Gulf of Mexico.

This very interesting shell, of which a worn stunted example is represented in the 'Conchological Illustrations,' fig. 30, under the erroneous title of *Murex turbinatus*, was, I believe, originally distinguished by Mr. Sowerby by the name of *Murex fulvescens*; no description, however, appeared, and as the name was subsequently cancelled from the catalogue, I am obliged to yield to M. Valenciennes the honour of having first introduced the species.

The frond-like spines of the *Murex spinicostata* are of a sharp simple structure, exhibiting no indication of being foliated; but are singularly characterised in being armed with a small prickle on each side at about one-third of their entire length from the top. This character can, however, only be recognised in such specimens as have the spines well developed.

Species 19. (Mus. Taylor.)

MUREX RUFUS. *Mur. testâ trigono-ovatâ, subfusiformi, spirâ mediocri; anfractibus transversim leviter liris, et granoso-striatis, inter varices tuberculatis; trifariam varicosis, varicibus, uniseriatim frondosis, frondis plano-compressis, regularibus, elegantissimè foliatis; rufofuscâ; aperturâ parvâ rotundatâ, sub-impressâ.*

THE RED MUREX. Shell triangularly ovate, somewhat fusiform, spire middling; whorls transversely ridged and granosely striated, tuberculated between the varices; three-varicose, varices surmounted by a single row of flatly compressed, regular, very elegantly foli-

ated fronds; reddish-brown; aperture small, rounded, somewhat impressed.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 574.
Hab. Indian Seas.

This species is chiefly distinguished by its three single rows of elegant leaf-like fronds, some of which seem to be coated internally with one or more peculiar laminæ of enamel. There is a very delicate small white variety of this shell with a pink apex.

Species 20. (Mus. Cuming.)

MUREX PALMIFERUS. *Mur. testâ fusiformi-oblongâ, spirâ subelongatâ, acuminato-turritâ; anfractibus transversim liris et striatis, tuberculis duobus prominentibus inter varices armatis; trifariam varicosâ, varicibus subincrassatis, uniseriatim frondosis, frondis brevibus, subcompressis, sæpè lateraliter fimbriato-connexis; roseofuscescente aut albidâ; canali breviusculo, recurvo; labro externo denticulato.*

THE BRANCH-BEARING MUREX. Shell fusiformly oblong, spire rather elongated, acuminately turreted; whorls transversely ridged and striated, armed between the varices with two prominent tubercles; three-varicose, varices somewhat thickened, furnished with a single row of short rather compressed fronds, often fimbriately connected at the side; pinkish brown or white; canal rather short, recurved; outer lip denticulated.

SOWERBY, Pro. Zool. Soc., 1840.

Hab. North Australia.

This species may be recognised by its short compressed fronds, which range for the most part so closely side by side as often apparently to form a connected leaf-like frill.



21 v



22 a



22 b



24 b

MUREX.

PLATE V.

Species 21. (Fig. *a*, Mus. Cuming; Fig. *b*, Mus. Saul.)

MUREX MONODON. *Mur. testā ovato-fusiformi, tenui, spiræ suturis excavato-impressis; anfractibus transversim liris et striatis; trifariam varicosā, varicibus pulcherrimè frondosis, frondibus elongatis, curvatis, penultimā longissimā, peculiariter recurvā; rufescente-fuscā, frondibus nigricantibus, columellā labrique limbo rosaceis; canali breviusculo; labro infra medium dente valido erecto instructo.*

THE SINGLE TOOTH MUREX. Shell ovately fusiform, thin, sutures of the spire excavately impressed; whorls transversely ridged and striated; three-varicose, varices very beautifully frondose, fronds elongated, curved, the last but one from the base much the longest, and peculiarly curved back; reddish brown, fronds blackish, columella and edge of the lip tinged with rose; canal rather short; lip furnished just beneath the middle with a strong raised tooth.

Variety β . (Fig. 21 *a*.)

Testa alba, columellā labrique limbo vividè coccineo-roseis.
Shell pure white, columella and edge of the outer lip bright scarlet rose.

SOWERBY, Tankerville Catalogue, App. p. 19.

Murex aranea, Blainville (Kiener).

Hab. Dupuch's Island, Torres Straits (found on the reefs at low water); Dring, H. M. S. Beagle.

I have much pleasure in being enabled to illustrate the varieties of this fine species, by two most magnificent specimens from the cabinets of Mr. Cuming and Miss Saul; the one exhibiting the front structure, in the white variety, with the delicate contrast of the pink lip and columella, the other showing the graceful curvature of the fronds, of

which the lowest but one assumes such a remarkable spur-like form.

The *Murices monodon* and *imperialis*, though figured by Martini in his Conchylien Cabinet, in the year 1777, were unknown to Lamarek, whose monograph of the genus, in the 'Animaux sans vertèbres,' was not published until five and forty years afterwards.

Species 22. (Mus. Cuming.)

MUREX TRUNCULUS. *Mur. testā ovato-fusiformi, subventricosā, spirā angulato-turritā; anfractibus transversim impresso-striatis et obtusè noduliferis, supernè angulatis; sexariam varicosā, varicibus ad angulum nunc obtusonodosis, nunc squamato-tuberculatis; purpureo-fusco alboque fasciatā; canali brevi, compresso, recurvo; aperturæ fauce zonis purpureis et albis vividè radiatā,*

THE BANDED MUREX. Shell ovately fusiform, slightly ventricose, spire angularly turreted; whorls transversely impressly striated, and obtusely nodiferous, angulated at the upper part; six-varicose, sometimes obtusely nodose at the angle; sometimes squamately tubercled; banded with purple-brown and white; canal short, compressed, recurved; interior of the aperture vividly rayed with purple and white zones.

LINNÆUS, Syst. Nat. (Gmelin's edit.) p. 3527.

Hab. Mediterranean.

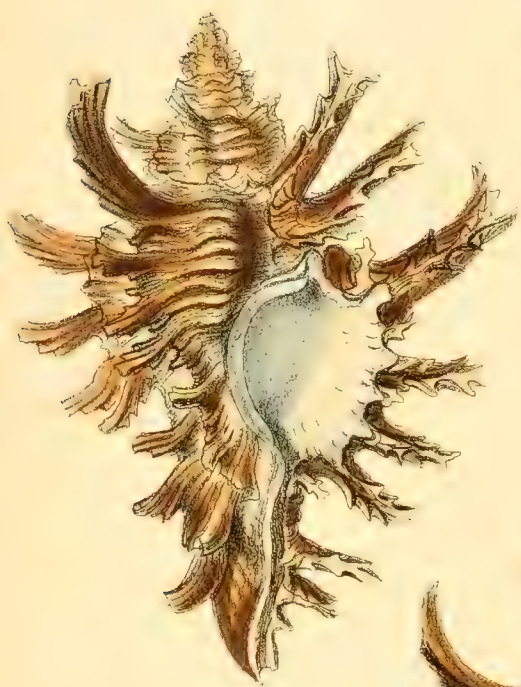
The figures given in illustration of this well-known species are selected to show the variable character of its growth, some examples being merely slightly nodiferous, whilst others are coronated with a prominent row of scale-like tubercles. A variation of structure analogous to this occurs in the genus *Voluta*, which presents both smooth and tubercled varieties of the greater portion of the species.



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MUREX.

PLATE VI.

Species 23. (Mus. Cuming.)

MUREX PRINCEPS. *Mur. testā subpyriformi-ovatā, hexagonā, spirā brevi; anfractibus supernè angulatis; transversim subobsoletè liris et striatis; sexfariam varicosā, varicibus frondosis, frondibus subrudibus, erectis; albā, fasciis lineisque ferrugineo-fuscis transversis tinctā; canali brevi.*

THE PRINCE MUREX. Shell somewhat pyriformly ovate, six-angled, spire short; whorls angulated at the upper part, transversely somewhat obsoletely ridged and striated; six-varicose, varices frondose, fronds somewhat rude, erect; white, stained with transverse rusty brown lines and bands; canal short.

BRODERIP, Pro. Zool. Soc., 1832.

Hab. Puerto Portrero, Central America (found on coral reefs at low water); Cuming.

The fronds of this species are of a peculiarly rude erect character, and that upon the angle is in each varix much stouter at the base than any of the rest. The style of colouring, which is of a reddish rusty brown, reminds one of the *Murex radix* though quite unlike.

Species 24. (Mus. Cuming.)

MUREX MEGACERUS. *Mur. testā fusiformi-ovatā, quadrangulari, spirā subacuminatā; anfractibus supernè leviter angulatis, inter varices nodoso-plicatis, transversim liris et striatis, liris parvis, acutangulis; quadrfariam varicosā, varicibus frondosis, frondibus peculiariter erectis, ad apicem leviter foliatis, fronde superā longissimā; fulvo-albicante, ferrugineo-fusco plus minusve pallide tinctā; canali subelongato.*

THE LARGE-HORNED MUREX. Shell fusiformly ovate, four-angled, spire somewhat acuminate; whorls slightly angulated at the upper part, nodosely plicated between the varices, transversely ridged and striated, ridges small, sharp-angled; four-varicose, varices frondose, fronds peculiarly erect, slightly foliated at the top, uppermost frond the longest; fulvous white, stained more or less with rusty brown; canal slightly elongated.

SOWERBY, Pro. Zool. Soc., 1845.

Hab. West Indies.

This species, though presenting no peculiarity of colour, may be readily distinguished by its four-varicose and quad-

angular structure, and by the straight erect character of the fronds.

Species 25. (Mus. Cuming.)

MUREX SINENSIS. *Mur. testā elongato-ovatā, subfusiformi, tenui, spirā suturis subimpressis; anfractibus transversim liris et striatis, inter varices nodiferis; trifariam varicosā, varicibus frondosis, frondibus regularibus, curvatis, pulcherrimè floridis, inciso-serratis; albicante, fusco tinctā, lineis transversis fuscis; labro infra medium fortiter erecto-dentato.*

THE CHINESE MUREX. Shell elongately ovate, somewhat fusiform, thin, sutures of the spire rather impressed; whorls transversely ridged and striated, nodiferous between the varices; three-varicose, varices frondose, fronds regular, curved, beautifully flowered, deeply serrated; whitish, stained with brown, transverse lines brown; lip strongly erectly toothed beneath the middle.

REEVE, Pro. Zool. Soc., 1845.

Murex elongatus, var., Sowerby, Conch. Illus. f. 88.

Hab. China.

The species which I here distinguish by the new title of *Murex Sinensis* appears to have been confounded for some time past with the *Murex elongatus*, or the young of the *Murex inflatus*. It is uniformly of a thin structure, and the fronds are of a delicate open flowery growth.

Species 26. (Mus. Cuming.)

MUREX ELONGATUS. *Mur. testā fusiformi-elongatā, tenuiculā, subventricosā; anfractibus transversim elevato-striatis, inter varices tuberculatis; trifariam varicosā, varicibus frondosis, frondibus curvatis, inciso-serratis; rubido-fuscā, columellā et aperturæ fauce nigricante-violascentibus; canali subelongato.*

THE ELONGATED MUREX. Shell fusiformly elongated, rather thin, somewhat ventricose; whorls transversely elevately striated, tuberculated between the varices; three-varicose, varices frondose, fronds curved, deeply serrated; dark reddish brown; columella and interior of the aperture blackish violet; canal rather elongated.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 571.

Hab. Gulf of Mexico.

There is not so much novelty in the elongated structure of this species as in its uniform dark reddish-brown colour, and the blackish-violet enamel of the aperture.



MUREX.

PLATE VII.

Species 27. (Fig. *a, b, c, d*, Mus. Cuming.)

MUREX ENDIVIA. *Mur. testā subgloboso-ovatā, ventricosā, spirā subturritā; anfractibus transversim latis et striatis; sexfariam vel septifariam varicosis, varicibus frondosis, frondibus floridi-foliaceis, laciniato-muricatis; pallidè ferrugineo-fuscā, frondibus nigricante-fuscis, vel albā, nigricante-fusco zonatā, frondibus alternatim nigricante-fuscis et albis, columellā et aperturæ fauce albis, rubro marginatis, varicibus rubromarginatis; canali brevi, ascendente; umbilico plerumque amplo.*

THE ENDIVE MUREX. Shell somewhat globosely ovate, ventricose, spire slightly turreted; whorls transversely ridged and striated; six- or seven-varicose, varices frondose, fronds flowery foliaceous, laciniately muricated; pale rusty brown, fronds blackish brown, or white, zoned with blackish brown, fronds alternately white and blackish brown, columella and interior of the aperture white, edged with red, varices edged with red; canal short, ascending; umbilicus frequently large.

Variety β . (Fig. 27 *a*.)

Testa octofariam vel nonafariam varicosa, anfractibus su-

perne declivibus, inferne contractis, varicibus octonis vel novenis, frondibus minoribus.

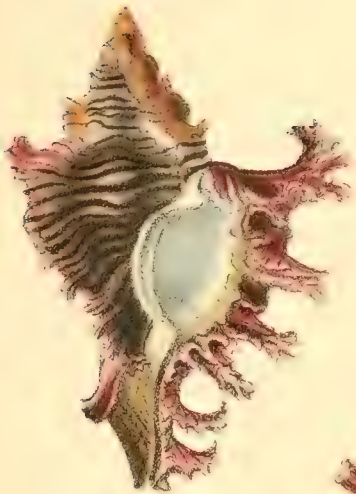
Shell eight- or nine-varicose, with the whorls bending downwards at the upper part, and contracted at the lower; fronds smaller.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 253.

Variety β , *Murex saxicola*, Broderip.

Hab. Philippine Islands (found in great abundance in rocky places at low water); Cuming.

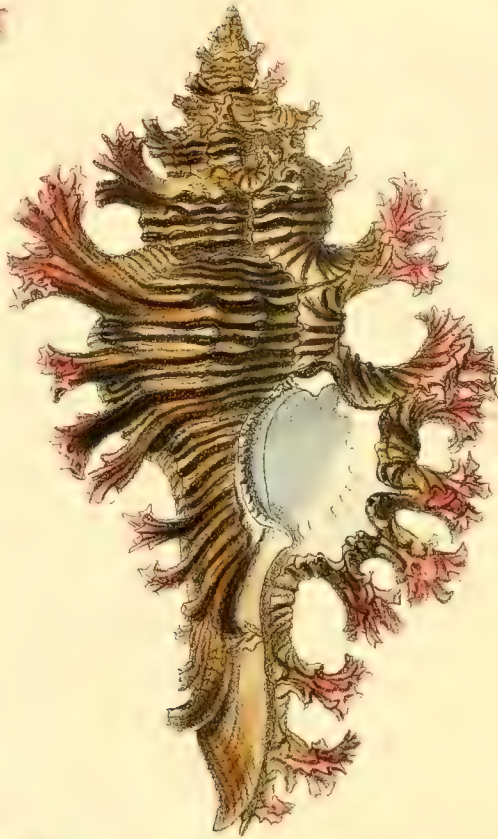
The leading colour of this magnificent species is a rusty or blackish brown, and it is so differently distributed in different examples, that it would be useless to establish any specific varieties upon so extremely variable a character. The *Murex endivia* presents, however, a variety of form which is of much greater importance, so much so, that Mr. Broderip described it in the Zoological Journal as a new species, *Murex saxicola*. The numerous specimens collected by Mr. Cuming at the Philippine Islands, abundantly testify that the remarkable declination which characterises the upper portion of the whorls in this variety, is no other than that structure of which we find a similar modification in the common *Murex trunculus* of the Mediterranean. The red marginal colouring of the columella and outer lips forms a characteristic feature in this species.



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MUREX.

PLATE VIII.

Species 28. (Mus. Saul.)

MUREX STEERLÆ. *Mur. testâ abbreviato-fusiformi, crassâ, transversim granoso-liratâ, inter varices fortiter tuberculatâ; trifariam varicosâ, varicibus incrassatis, frondosis, frondibus crispato-ramosis, subcompressis, breviusculis, fronde parvâ interveniente; fuscâ, liris nigricantibus, frondibus purpureo-roseis, columellâ et aperturæ fauce albis; labro externo incrassato, intus denticulato; canali breviusculo.*

STEERE'S MUREX. Shell abbreviately fusiform, thick, transversely granosely ridged, strongly tuberculated between the varices; three-varicose, varices thickened, frondose, fronds crispately branched, somewhat compressed, rather short, with a small frond intervening; brown, ridges blackish, fronds purple-rose, columella and aperture white; outer lip thickened, denticulated within; canal rather short.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

This shell might easily be mistaken for an accidental stunted growth of the *Murex palma-rosæ*, were it not for the constancy and marked peculiarity of its characters. The fronds are short and somewhat erect, with a row of small fronds sprouting up at their base, they are also laterally pinched, as it were, and do not spread in the same flowery bifurcate manner as in the *Murex palma-rosæ*. There is another exactly similar example in the collection of Miss Steere, whose name deserves to be recorded in testimony of her honourable zeal for the science.

Species 29. (Mus. Cuming.)

MUREX ADUSTUS. *Mur. testâ abbreviato-fusiformi, crassiusculâ, transversim conspicuè lirâtâ et striatâ, inter varices maximè tuberculatâ; trifariam varicosâ, varicibus densissimè frondosis, frondibus foliaceis, dentato-muricatis; fuscescente-albâ nigro tinctâ, liris frondibusque aterrimis; columellâ rosæâ, interdum luteâ, aperturæ fauce albâ, roseo marginatâ; canali brevi.*

THE BURNT MUREX. Shell shortly fusiform, rather thick, transversely conspicuously ridged and striated, very largely tuberculated; three-varicose, varices very thickly frondose, fronds foliaceous, dentately muri-

cated; brownish-white stained with black, ridges and fronds jet black; columella rose-colour, sometimes yellow, interior of the aperture white, edged with rose; canal short.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 573.

Hab. Philippine Islands; Cuming.

This species may be easily recognised by its jet black colour, and the profuse clustered character of the fronds.

Species 30. (Mus. Cuming.)

MUREX PALMA-ROSÆ. *Mur. testâ oblongo-fusiformi, crassiusculâ, transversim granoso-liratâ, inter varices leviter bituberculatâ; trifariam varicosâ, varicibus frondosis, frondibus foliaceo-ramosis, bifurcatim expansis; castaneo-fuscescente, liris nigricante-fuscis, frondibus roseo marginatis, columellâ et aperturæ fauce albis; labro columellari denticulato; canali subelongato.*

THE ROSE-BRANCH MUREX. Shell oblong-fusiform, rather thick, transversely granosely ridged, with two slight tubercles between the varices; three-varicose, varices frondose, fronds foliaceously branched, expanded in a bifurcate manner; pale chesnut brown, ridges blackish brown, fronds edged with pink, columella and interior of the aperture white; columellar lip denticulated; canal rather elongated.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 572.

Hab. Ceylon.

The beautiful pink branched character of the fronds of this species has always rendered it one of peculiar admiration to the collector.

Species 31. (Mus. Saul.)

MUREX SAULIÆ. *Mur. testâ elegantissimè fusiformi, transversim eximè granoso-liratâ, inter varices leviter tuberculatâ; trifariam varicosâ, varicibus frondosis, frondibus suberectis, foliaceo-muricatis, fronde minutâ interveniente; pallidè luteo-fuscescente rosaceo tinctâ, liris castaneo-fuscis, frondibus intus rosaceis, columellâ canali et aperturæ fauce albis, rosaceo marginatis; labro columellari simplici, lævi; canali subelongato, recurvo.*

May 1845.

SAUL'S MUREX. Shell very elegantly fusiform, transversely delicately granosely ridged, slightly tuberculated between the varices; three-varicose, varices frondose, fronds rather erect, foliaceously muricated, with a minute frond intervening; pale yellowish brown stained with pink, ridges chesnut brown, fronds pink within, columella canal and interior of the aperture white, edged with pink; columellar lip simple, smooth, canal rather elongated, recurved.

SOWERBY, Pro. Zool. Soc., 1840.

Murex palma-rosæ var., Kiener.

Hab. Philippine Islands; Cuming.

There can be no difficulty in distinguishing this species from the *Murex palma-rosæ*; it is of an uniform paler colour, the canal, and columellar and outer lips being edged with pink, whilst the columellar lip presents no indication of being denticulated, and the fronds have here and there a small frond sprouting up at their base.

Species 32. (Mus. Cuming.)

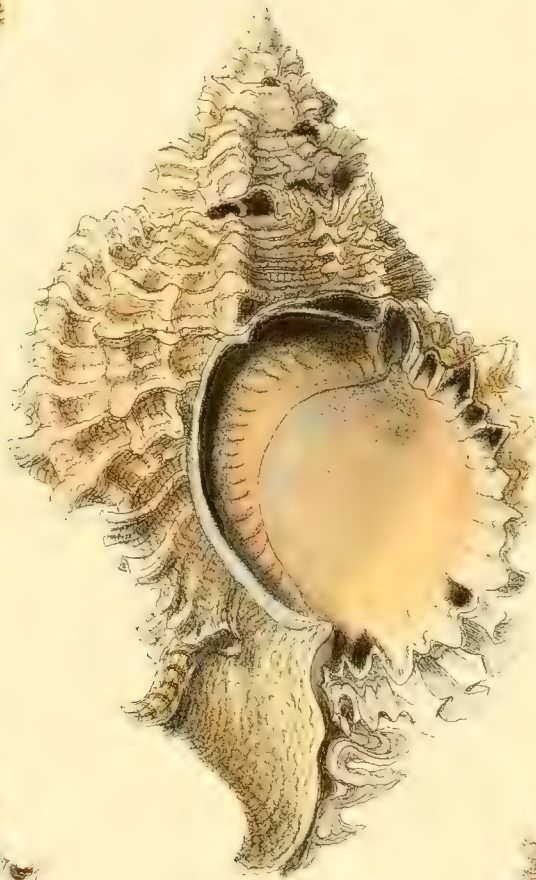
MUREX RUBIGINOSUS. *Mur. testâ subabbreviato-fusiformi, transversim granoso-liratâ et striatâ, inter varices fortiter tuberculatâ; trifariam varicosâ, varicibus frondosis, frondibus foliaceis, brevibus, alternis parvis, recumbentibus; pallidè rubiginosâ, liris frondibusque nigricante-fuscis; columellâ rubiginoso-luteâ, aperture fauce albâ.*

THE RUSTY MUREX. Shell somewhat abbreviately fusiform, transversely granosely ridged and striated, strongly tuberculated between the varices; three-varicose, varices frondose, fronds foliaceous, short, the alternate small, recumbent; pale rusty brown, ridges and fronds blackish brown; columella rusty-yellow, interior of the aperture white.

REEVE, Pro. Zool. Soc., 1845.

Hab. Philippine Islands.

This shell, of which both Mr. Cuming and Mr. Taylor possess specimens, is quite distinct from any species hitherto described.



MUREX.

PLATE IX.

Species 33. (Mus. Saul.)

MUREX CRASSIVARICOSA. *Mur. testâ subabbreviato-fusiformi, crassiusculâ; transversim granoso-lirâtâ et striatâ trifariam varicosâ, varicibus incrassatis, rotundatis, frondosis, frondibus parvis, foliaceis, alternis minoribus; livido-ferrugineâ, aperturæ fauce albâ.*

THE THICK-VARICOSE MUREX. Shell somewhat abbreviately fusiform, rather thickened, transversely granosely ridged and striated; three-varicose, varices thickened, rounded, frondose, fronds small, foliaceous, alternate ones smaller; livid rusty brown, interior of the aperture white.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

A new species of which I have seen several characteristic examples, including an interesting white variety from the collection of Thomas Norris, Esq.

Species 34. (Mus. Cuming.)

MUREX VARIUS. *Mur. testâ subrhomboideâ, fusiformi, transversim granoso-lineatâ et striatâ, post varices sæpe tuberculatâ; anfractibus supernè angulatis, infra rotundatis; quinquevaricosâ, varicibus ad angulum et infernè squamato-tuberculatis, squamis tribus minutis interdum intervenientibus; albidâ, fulvo tinctâ, lineis extantibus fuscescentibus; columellâ et aperturæ fauce albis; canali breviusculo.*

THE CHANGEABLE MUREX. Shell subrhomboidal, fusiform, transversely granosely lineated and striated, often tuberculated behind the varices; whorls angulated at the upper part, rounded beneath; five-varicose, varices squamately tubercled at the angle and towards the base, with three minute scales sometimes coming between; whitish, stained with fulvous brown, raised lines light reddish-brown, columella and interior of the aperture white; canal rather short.

SOWERBY, Pro. Zool. Soc., 1840.

Hab. Mouth of the Gambia, west coast of Africa; Lieut. Shaw.

There is a smaller variety of this species in which the tubercles are much fuller and more obtuse, and which exhibits no indication of the minute intermediate scales noticed above.

Species 35. (Mus. Steere.)

MUREX POMUM. *Mur. testâ fusiformi-oblongâ, crassâ, solidâ, undiquè scaberrimâ; transversim conspicuè lirâtâ, inter varices tuberculatâ; trifariam varicosâ, varicibus lamellis brevibus complicatis tuberculatis; fulvâ aut rufo-fuscescente; columellâ et aperturæ fauce ochraceis, labro columellari subrugoso, margin eerecto, nigerrimo-fusco, præcipuè supernè, vividè tincto, labro externo fortiter dentato, maculis tribus nigerrimo-fuscis ornato; canali breviusculo, compresso, recurvo.*

THE APPLE MUREX. Shell fusiformly oblong, thick, solid, very rough throughout, transversely conspicuously ridged, tuberculated between the varices; three-varicose, varices tuberculated with a complicated mass of laminae; fulvous or reddish brown, columella and interior of the aperture ochraceous yellow, columellar lip slightly wrinkled, edge erected, vividly stained, especially at the upper part, with very black brown; outer lip strongly toothed, ornamented with three black-brown spots; canal rather short, compressed, recurved.

GMELIN, Syst. Nat., p. 3527, no. 6.

Murex asperrimus, Lamarck.

Hab. West Indies (found on coral reefs at the Island of St. Vincents); Guilding. Mediterranean, &c.

A well-known species which appears to be very widely and abundantly distributed.

Species 36. (Mus. Cuming.)

MUREX OCULATUS. *Mur. testâ fusiformi-oblongâ, crassiusculâ, undique leviter scabrosâ, transversim lirâtâ et striatâ, inter varices bituberculatâ; trifariam varicosâ, varicibus lamellis brevibus subcomplicatis tuberculatis; albidâ, rufo-fuscescente tinctâ, varicibus maculis quadratis rubentibus alternatim pictis, columellâ rubentelutâ, aperturæ fauce albâ, labro nigerrimo-fusco supernè præcipuè, maculato, apice rubente; canali breviusculo, compresso, recurvo.*

THE EYED MUREX. Shell fusiformly oblong, rather thick, slightly scabrous throughout, transversely ridged and striated, with two tubercles between the varices; three-varicose, varices tuberculated with short rather complicated lamellæ; whitish, stained with reddish brown,

May 1845.

varices painted alternately with square red spots, columella reddish yellow, interior of the aperture white, lip spotted with black-brown, especially at the upper part, apex red, canal rather short, recurved.

REEVE, *Pro. Zool. Soc.*, 1845.

Hab. — ?

Although this shell has so many characters in common with the *Murex pomum*, it exhibits a constant peculiarity of sculpture, form, and colour. In sculpture it is smoother and presents two tubercles between each varix; in form it is more graceful and slender; and in colour it is peculiarly tinged and spotted with red, with a red apex. I have seen numerous examples of this species, and can distinguish them at a glance from any variety of the *Murex pomum*.

Species 14. (Fig. 14. Plate III. *Mus.* Taylor; Fig. 14 *b.* Plate IX. *Mus.* Cuming.)

MUREX ROSARIUM. *Mur. testā globoso-turbinatā, ventricosā, spirā breviusculā; anfractibus supernè rotundato-angulatis, transversim crebriliratis, liris crispato-rugosis, subsquamosis; sexfariam vel septifariam varicosā, varicibus obtusis, angulum super squamato-tuberculatis, basem versus crassisquamatis; ferrugineo-fuscescente, fasciis tribus nigricante-fuscis interruptis ornatā, varicibus roseo marginatis, columellā vividè roseā, aperturæ fauce roseo trifasciatā; canali breviusculo, latiusculo, umbilicato.*

THE ROSE-BED MUREX. Shell globosely turbinated, ventricose, spire rather short; whorls rotundately angulated at the upper part, transversely closely ridged,

ridges wrinkled in a crisped manner, and somewhat squamose; six- or seven-varicose, varices obtuse, squamately tubercled upon the angle, thick-scaled towards the base; rusty brown, ornamented with three interrupted dark brown bands, varices edged with rose, columella deep rose colour, interior of the aperture stained with three rose bands; canal rather short, somewhat broad, umbilicated.

Variety β (Plate III. Fig. 14).

Testa globosior, albida, fasciis purpureis, columellā citrino-luteā.

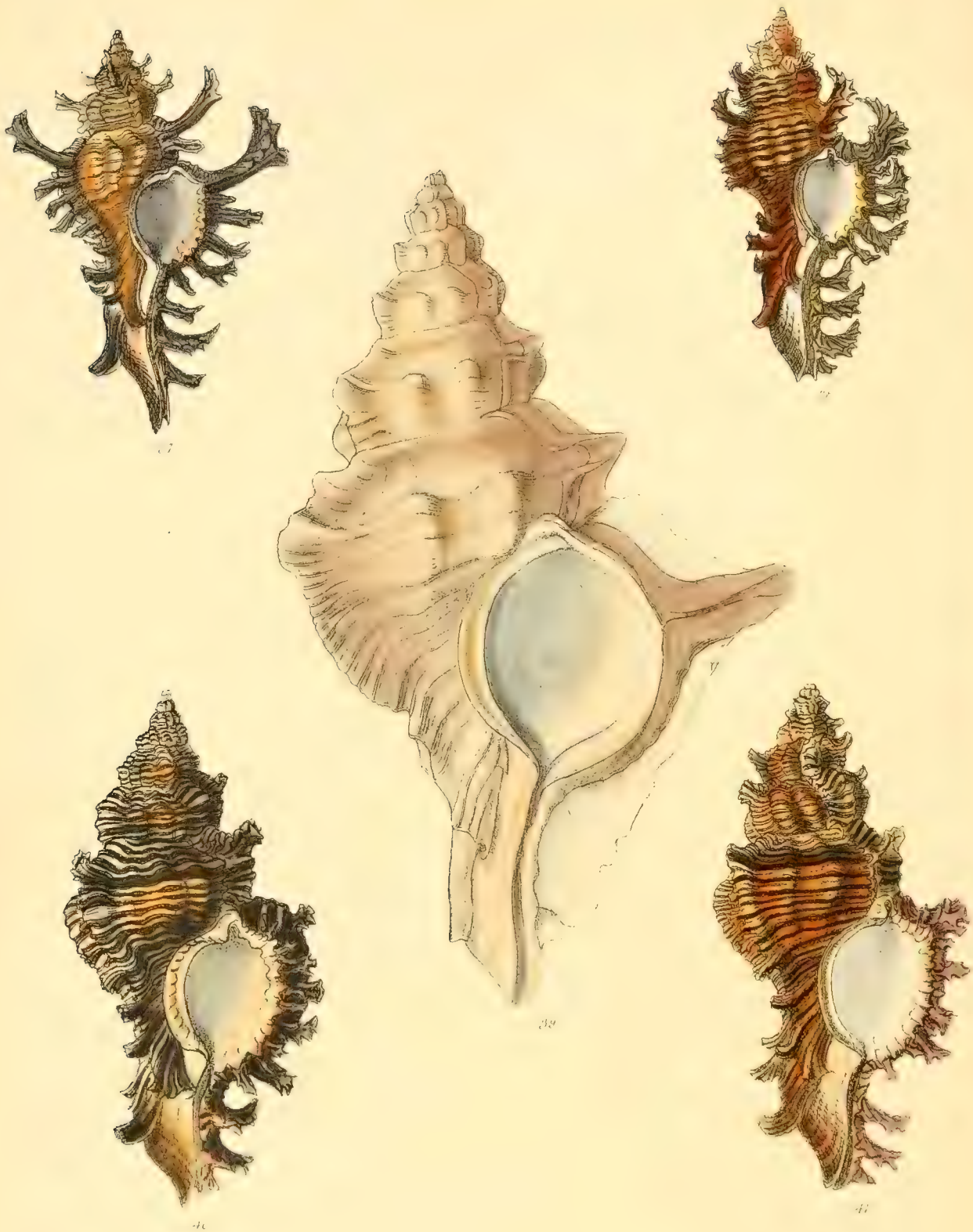
Shell more globose, whitish, with the bands purple, and the columella citron yellow or salmon-colour.

CHEMNITZ, *Conch. Cab.* vol. x. pl. 161. f. 1528, 1529.

Murex melonulus, Lamarck.

Hab. Fernando Po. Variety β , Senegal.

Although this species presents such a striking display of characters it is one of the most variable of the genus. No two shells, for example, are apparently more distinct from each other than the varieties here figured, yet upon examination they will be found to approximate in their plan of sculpture and distribution of colour with the minutest exactness. In form and structure the variations are really extraordinary; in one richly-coloured example before me, from the collection of Thomas Norris, Esq., the aperture is so large and widely expanded that the shell almost assumes the form of a *Pyrrula*, in another the structure is that of a heavy solid shell like the *Murex imperialis* (though, of course, having no relation with that species).



MUREX.

PLATE X.

Species 37. (Mus. Saul.)

MUREX AXICORNIS. Variety β . For description of this species, see Plate XV.

Species 38. (Mus. Cuming.)

MUREX BANKSII. *Mur. testā subelongato-fusiformi, transversim granoso-liratā et striatā, inter varices trituberculatā; trifariam varicosā, varicibus frondosis, frondibus laciniato-foleaceis, recurvis, fronde minutā basi interveniente; castaneo-fuscescente, frondibus nigricantefuscis, apice rosaceo; aperturā rotundatā, labro pulcherrimè denticulatō; canali longiusculo.*

BANKS' MUREX. Shell somewhat elongately fusiform, transversely granosely ridged and striated, with three tubercles between the varices; three-varicose, varices frondose, fronds laciniately foliaceous, recurved, with a minute frond intervening at the base; light chesnut brown, fronds blackish brown, apex pink; aperture rounded, lip very beautifully denticulated; canal rather long.

SOWERBY, Pro. Zool. Soc., 1840; Conch. Illus. f. 82.
Hab. Moluccas.

The sculpture of this species is of a character somewhat similar to that of the *Murex axicornis*; it agrees with it also in the rounded aperture, closed canal, and finely denticulated lip. Here, however, the resemblance ceases, for its form and the growth of the fronds are totally different.

Species 39. (Mus. Cuming.)

MUREX ALABASTER. *Mur. testā trigono-fusiformi, spirā testā longitudinem æquante; anfractibus transversim liratis et striatis, liris lævibus, supernè angulatis, nodulis duobus tribusve subconspicuis ad angulum armatis; trifariam varicosā, varicibus laminato-alatis, tuberculo erecto, profundè canaliculato, ad angulum munitis; intus extusque eburneā; canali breviusculo.*

THE ALABASTER MUREX. Shell triangularly fusiform, spire equal to the length of the shell, whorls transversely ridged and striated, ridges smooth, angulated at the upper part, armed at the angle with two or three rather conspicuous nodules; three-varicose, varices laminately winged, furnished at the angle with an erect deeply canaliculated tubercle; ivory white within and without; canal rather short.

REEVE, Pro. Zool. Soc., 1845.

Hab. Island of Cagayan, Province of Misamis, Island of Mindanao (found on the beach); Cuming.

Mr. Sowerby referred this extraordinary shell with some doubt to the *Murex acanthropterus*; its proportions are, however, so utterly different that I venture to describe it as a new species. No other specimen has been seen.

Species 40. (Mus. Cuming.)

MUREX MICROPHYLLUS. *Mur. testā subfusiformi, crassiusculā, inter varices bi-trituberculatā, transversim granoso-liratā et striatā, liris extantibus, nodiferis; triraricosā, varicibus frondosis, frondibus superioribus brevibus, subobscuris, inferioribus foliaceis; columellæ margine dentato-corrugato; ferrugineo-fuscā, liris conspicuè nigris, aperturæ fauce albā, columellā luteo-aurantiā; labro denticulatō.*

THE SMALL-LEAF MUREX. Shell somewhat fusiform, rather thick, with two or three elongated tubercles between the varices; transversely granosely ridged and striated, ridges prominently standing out, nodiferous; three-varicose, varices frondose, upper fronds short, somewhat obscure, lower fronds foliaceous; edge of the columella dentately wrinkled; rusty brown, with the ridges conspicuously black, interior of the aperture white, columella yellowish orange; lip denticulated.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 575.
Hab. Ceylon (found in rocky places); Dr. Siebald.

This species is distinguished from the following by the prominent nodulous structure of the ridges, and by their very dark colour; by the obscure blunted growth of the fronds and absence of any pink colouring; and by the dentately wrinkled peculiarity of the edge of the columella.

Species 41. (Mus. Saul.)

MUREX TORREFACTUS. *Mur. testā subfusiformi, transversim eximè granoso-liratā et striatā, inter varices bituberculatā; trifariam varicosā, varicibus frondosis, frondibus brevibus, expanso-foliaceis, frondibus alternis parvis, decumbentibus; pallidè ustulato-fuscā, liris saturationioribus, frondibus intus rosaceis; columellā lævi, luteo-aurantiā.*

THE SCORCHED MUREX. Shell somewhat fusiform, transversely delicately granosely ridged and striated, with two tubercles between the varices; three-varicose, varices frondose, fronds short, expandedly foliated, alternate fronds small, bending downwards; pale burnt brown, ridges darker brown, fronds pink within; columella smooth, yellowish orange.

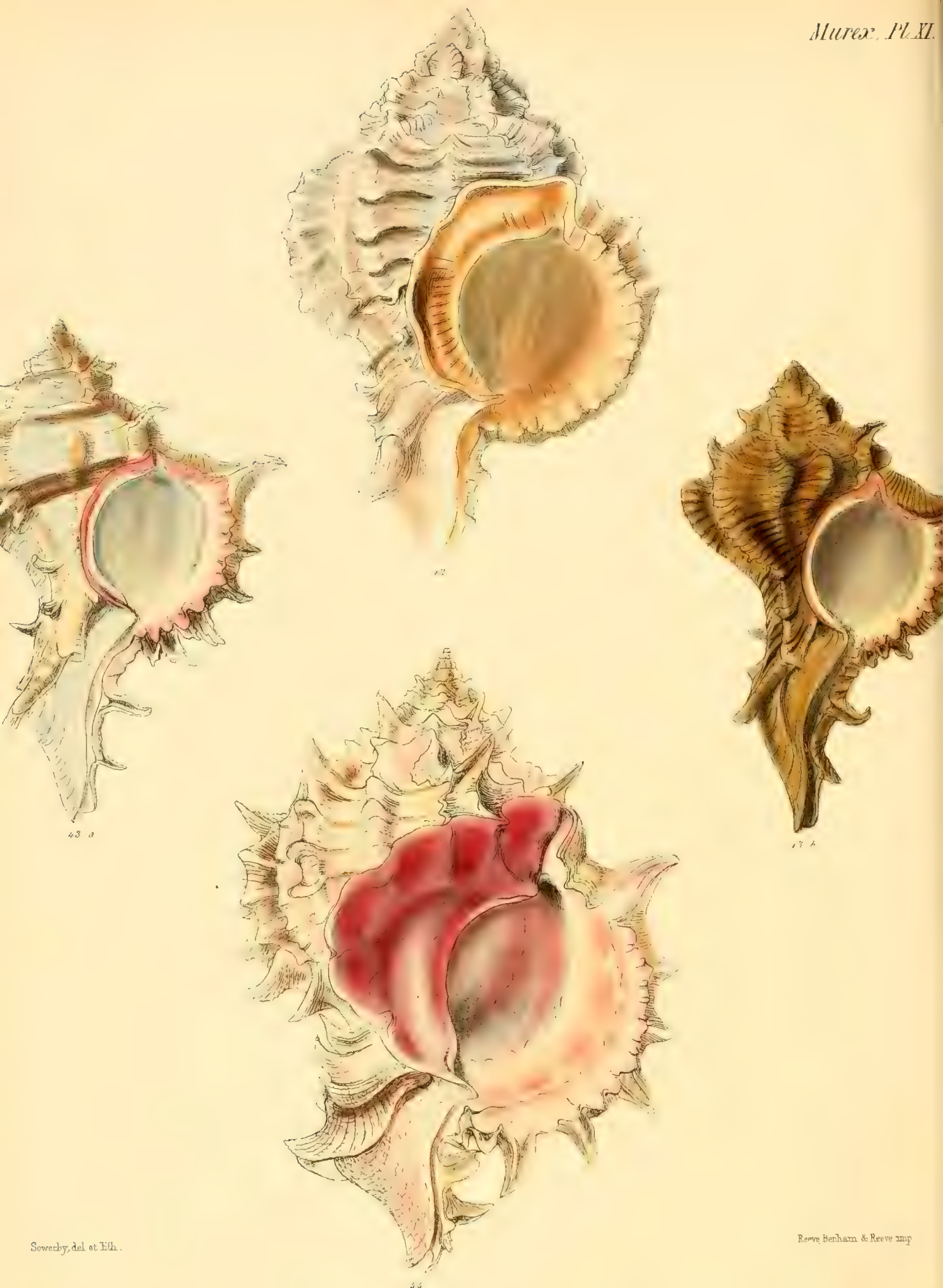
SOWERBY, Pro. Zool. Soc., 1840.

Murex microphyllus, var., Kiener.

Hab. Island of Ticao, Philippines; Cuming.

None but a Kiener could fail to discover the specific differences between this shell and the *Murex microphyllus*, as detailed in my observations on that species.

English authors may justly feel indignant at the unceremonious manner in which their new species are disposed of by this author, merely because he has not the discrimination to appreciate them.



MUREX.

PLATE XI.

Species 42. (Mus. Cuming.)

MUREX IMPERIALIS. *Mur. testā ovato-ventricosā, crassā, ponderosā, transversim costatā et striatā, interstitiis peculiariter puncturatis, tuberculo subelongato variciformi inter varices armatā; quadrifariam varicosā, varicibus crassis, tuberculiferis; albidā, columellā corrugatā; labro externo dentato; canali brevi.*

THE IMPERIAL MUREX. Shell ovately ventricose, thick, ponderous, transversely ribbed and striated, interstices peculiarly punctured, armed between the varices with a rather elongated varix-shaped tubercle; four-varicose, varices thick, tuberculiferous; whitish, columella wrinkled; outer lip toothed; canal short.

SWAINSON, Zool. Illus. 2nd Series, vol. ii. pl. 67.

Hab. Isabella Island, California (found on mud banks); Captain Belcher, R.N.

The mouth of this species is sometimes yellow, sometimes deep pink. Of the latter variety there is a beautiful example in the collection of Colonel Drummond.

Species 43. (Fig. a, Mus. Cuming; Fig. b, Mus. Taylor.)

MUREX ANGULIFERUS. *Mur. testā pyriformi-fusiformi, trigonulari, crassiusculā, transversim striatā, rugosā et leviter corrugatā, tuberculo magno in plicam sæpe terminato inter varices; trifariam varicosā, varicibus subincrassatis, squamis brevibus solidiusculis recurvis muricatis armatis; albā, fasciā fuscā interdum cingulatā, columellā et aperturæ fauce albis, roseo marginatis; canali breviusculo, ascendente.*

THE ANGULIFEROUS MUREX. Shell pyriformly fusiform, triangular, rather thick, transversely striated, rough and slightly wrinkled, with a large tubercle between the varices which sometimes terminates in a fold; three-varicose, varices somewhat thickened, and armed with short solid recurved sharp-pointed scales; white, sometimes encircled with a brown band, columella and interior of the aperture white, edged with pink; canal rather short, ascending.

Variety β. (Fig. 43 b,)

Testa omnino fusca.

Shell entirely brown.

Murex ferrugo, Wood.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 588.

Hab. Ceylon (found on the reefs); Miller, R.N.

This species, which may easily be distinguished by its peculiarly triangular pyriform shape, is certainly not *Le Sirat* of Adanson (see Plate XXIV.) as Lamarck supposed. The *Murex ferrugo* of Wood, which I at one time thought to be a distinct species, is unquestionably a variety only of this.

Species 44. (Mus. Steere.)

MUREX BICOLOR. *Mur. testā globoso-oblongā, tenuiusculā, inflatā, ventricosā, transversim striatā, rugosā et leviter corrugatā; lirā magnā elongatā variciformi, tuberculiferi, inter varices; quinquefariam varicosā, varicibus rotundatis, squamis plus minusve solidis supernè et infernè, tuberculis compressis in medio, armatis; roseo-albicante, fusciscentè pallidissimè tinctā, columellā et aperturæ fauce vividè roseis; labro columellari latissimè expanso, margine erecto, labro externo dentato; canali breviusculo, compresso, ascendente.*

THE TWO-COLOURED MUREX. Shell globosely oblong, thin, inflated, ventricose, transversely striated, rough and slightly wrinkled, with a large elongated, tuberculiferous varix-like ridge between the varices; five-varicose, varices rounded, armed at the upper and lower parts with more or less solid scales, in the middle with compressed tubercles; pinkish white, faintly stained with light brown, columella and interior of the aperture bright pink; columella lip very widely expanded, erect at the edge, outer lip toothed; canal rather short, compressed, ascending.

VALENCIENNES. Zoology of Humboldt and Bonpland's Voyage, vol. ii. 1821.

Murex erythrostoma, Swainson.

Murex regius, Schubert and Wagner (not of Swainson).

Murex hippocastanum, Philippi (not of Linnaeus).

Hab. Gulf of California (found on mud banks at low water); Lieutenant Babb, R.N.

Dr. Philippi appears to have described and figured in the eighth Part of his 'Abbild. und Besch. Conch.' under the new title of *Murex hippocastanum*, a small variety of this species in which the columella is white and the light brown colouring rather predominates.



45



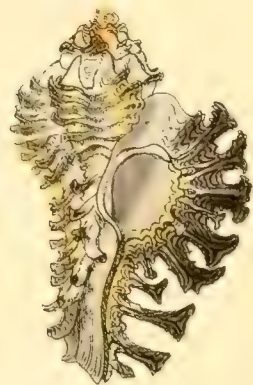
46



47.



48



49.

MUREX.

PLATE XII.

Species 45. (Mus. Cuming.)

MUREX RUBESCENS. *Mur. testā fusiformi, crassā, transversim striatā et costatā, inter varices fortiter tuberculatā; trifariam varicosā, varicibus incrassatis, tuberculis obtusis rudibus canaliculatis irregulariter armatis; vividè rubescente, tuberculis castaneo-fuscis; aperturā parvā.*

THE PINK-RED MUREX. Shell fusiform, thick, transversely striated and ribbed, strongly tuberculated between the varices; three-varicose, varices thickened, armed with irregular rude obtuse canaliculated tubercles; bright pink-red, tubercles chesnut brown; aperture small.

BRODERIP, Pro. Zool. Soc., 1832.

Hab. Taheite (found on the coral reefs); Cuming.

A solid shell of rude irregular structure.

Species 46. (Mus. Cuming.)

MUREX DIGITATUS. *Mur. testā subpyriformi, spirā brevi, suturis cavernosis; transversim scabroso-liratā et striatā; octofariam varicosā, varicibus frondosis, frondibus parvis, numerosis, erecto-dilatatis, ad summitatem leviter palmatis; aurantio-fuscescente, frondibus castaneis; aperturā parvā; canali subelongato.*

THE DIGITATED MUREX. Shell somewhat pyriform, spire short, sutures cavernous; transversely roughly ridged and striated; eight-varicose, varices frondose, fronds small, numerous, erectly dilated, slightly palmated at the summit; orange-brown, fronds dark chesnut; aperture small; canal rather elongated.

SOWERBY, Pro. Zool. Soc., 1840; Conch. Illus. f. 114.

Hab. Island of Massoua, Red Sea (found in rocky places); Rüppell.

There are eight varices to a whorl in this beautiful species, each consisting of a row of numerous palmated fronds.

Species 47. (Mus. Steere.)

MUREX NIGRITUS. *Mur. testā ovato-pyriformi, ventricosā, spirā brevi; anfractibus supernè angulatis, transversim planiliratis, liris alternis latioribus; octofariam vel nonafariam varicosā, varicibus frondosis, fronde ad an-*

gulum grandi, tuberculato-squamatā, frondibus tribus vel quaternis basalibus longioribus fortibus corniformibus, cæteris parvis, subobsoletis; albā, ferrugineo tinctā, frondibus lirisque aterrimis; umbilico amplo.

THE BLACKENED MUREX. Shell ovately pyriform, ventricose, spire short; whorls angulated at the upper part, transversely flatly ridged, alternate ridges the broader; eight-or nine-varicose, varices frondose, frond upon the angle large tubercularly squamate, the three or four basal fronds longer, strong, horn-shaped, the rest small and rather obsolete; white, stained with rusty brown, fronds and ridges jet black; umbilicus large.

PHILIPPI, Abbild. und Besch., Conch. Part VIII. *Murex*, p. 1. pl. 1. fig. 1.

Hab. Pacific Islands.

I quite agree with Dr. Philippi in distinguishing this shell from the *Murex radix*; three species have been confounded together, in my opinion, under that name.

Species 48. (Mus. Saul.)

MUREX MELANOMATHOS. *Mur. testā globoso-pyriformi, spirā brevi, transversim elevato-striatā; octofariam varicosā, varicibus squamato-spinosis, spinis solidiusculis, canaliculatis, confertis, peculiariter erectis; albā, varicibus aterrimis; aperturā parvā; canali subcompresso; clauso.*

THE BLACK-SPINED MUREX. Shell globosely pyriform, spire short, transversely elevately striated, eight-varicose, varices squamately spined, spines rather solid, canaliculated, close-set, peculiarly erect; white, varices jet-black; aperture small, canal rather compressed, closed.

GMELIN; Lamarck, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 584.

Hab. — ?

This interesting little shell may be recognised by the tall, solid, erect, jet-black character of its spines, in which respect it differs from the *Murex angularis*, a species I have often seen mistaken for it by collectors.

Species 49. (Mus. Cuming.)

MUREX VARICOSUS. *Mur. testā subelongato-pyriformi, transversim squamato-liratā, spiræ suturis profundè cavernosis; septifariam varicosā, varice ultimo marginali planifrondoso, frondibus canaliculatis ad summitatem palmatis, extus crispato-squamatis, varicibus cæteris frondibus irregularibus plus minusve confragosis; albā, frondibus nigricante-fuscis; aperturā peculiariter parvā.*

THE VARICOSE MUREX. Shell somewhat elongately pyriform, transversely squamately ridged, sutures of the

spire deeply cavernous; seven-varicose, the marginal varix flatly frondose, fronds canaliculated, palmated at the summit, crisply scaled on the outside, the rest of the varices with the fronds irregular and more or less obscurely broken away; white, fronds blackish brown; aperture peculiarly small.

SOWERBY, Pro. Zool. Soc., 1840.

Hab. —?

An interesting species established by Mr. Sowerby, approximating, in some degree, to the *Murex secundus*.



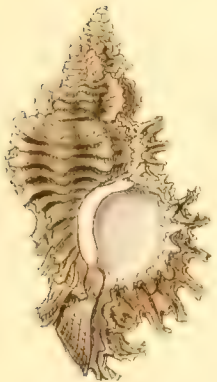
50 a



50 b



51



52



53

MUREX.

PLATE XIII.

Species 50. (Fig. *a* and *b*, Mus. Saul.)

MUREX HUMILIS. *Mur. testā ovato-pyriformi, spirā brevi, angulato-turritā, anfractibus supernè planulatis, infra contractis, transversim liris, liris pone varices conspicuis; octofariam varicosā, varicibus medio seriatim duplicato-squamatis, squamis brevibus, recurvis, basi frondosis, frondibus subramosis, spinosis; albido-fuscescente, aurantio-rufescente profusè tinctā et maculatā; aperturā parvā; canali subelongatā.*

THE HUMBLE MUREX. Shell ovately pyriform, spire short, angularly turreted, whorls depressed round the upper part, contracted below, transversely ridged, ridges conspicuous behind the varices; eight-varicose, varices consisting in the middle of a double row of scales, peculiarly curved back, at the base of a single row of slightly branched spinous fronds; whitish brown, profusely stained and spotted with orange red; aperture small, canal slightly elongated.

BRODERIP, Pro. Zool. Soc., 1832; Sowerby, Conch. Illus. f. 46 and 47.

Hab. St. Elena, western coast of South America (dredged from sandy mud at the depth of seven fathoms); Cuming.

This species has been but imperfectly described and figured hitherto for want of a good specimen. It is a species of very peculiar character, its pyriform growth, the curiously recurved bi-squamate structure of the varices, and its orange-red colouring are features of considerable specific interest.

Species 51. (Mus. Saul.)

MUREX AMBIGUUS. *Mur. testā globosā, subpyriformi, transversim liratā, liris irregularibus, interruptis; octofariam varicosā, varicibus frondosis, frondibus alternis vel paucioribus elato-ramosis, spinosis, basalibus longioribus; albā, frondibus lirisque aterrimis, labri columellari parte superiorā nigro tinctā; canali breviusculo.*

THE AMBIGUOUS MUREX. Shell globose, slightly pyriform, transversely ridged, ridges irregular, interrupted; eight-varicose, varices frondose, the alternate fronds, or fewer, elevately branched, spinous, basal fronds longer; white, fronds and ridges jet black, upper part

of the columellar lip stained with black; canal rather short.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

Three species appear to me to have been confused hitherto under the common title of *Murex radix*, which though closely approximating may be separated without difficulty by any person possessing a tolerable share of conchological discrimination. The true *Murex radix* is a round particularly solid heavy shell with a short, though sharply acuminate, spire, with not less than ten varices, in which the fronds are numerous, somewhat laterally compressed, comparatively short, and sharp pointed; the species described by Dr. Philippi under the title of *Murex nigrinus* (for which see Pl. 12. Sp. 47), has but eight or nine varices and the fronds are not branched, those on the upper angle of the whorls being tubercularly squamate, those in the middle flat and very obscure, whilst those at the base are long and horn-shaped. In the species under consideration the shell is of somewhat light structure and the fronds are large, open, and flowery. It certainly presents a modification of character intermediate between the *Murices radix* and *nigrinus*, but it is always easy to be distinguished; and any modification of structure may, I apprehend, be considered of specific importance when it is not immediately approached on either side.

Species 52. (Mus. Metcalfe.)

MUREX CORRUGATUS. *Mur. testā ovato-fusiformi, inter varices bituberculatā, transversim liratā et striatā, liris subconspicuis, obsolete nodosis; trifariam varicosā, varicibus obliquis, peculiariter laminato-squamatis; ferrugineo-fuscā, aperturā fauce violacē.*

THE WRINKLED MUREX. Shell ovately fusiform, with two tubercles between the varices, transversely ridged and striated, ridges somewhat conspicuous, obsoletely noduled; three-varicose, varices oblique, peculiarly laminately squamate; rusty-brown, interior of the aperture tinged with violet.

SOWERBY, Pro. Zool. Soc., 1840.

Hab. North Australia; H.M.S. Beagle.

This shell has very much the aspect of the *Murex palmiferus*, the varices are nevertheless of very different struc-

ture. Instead of being furnished with a row of distinct leaf-like fronds, they are ornamented throughout with a connected lamina forming festoons of open scales.

Species 53. (Mus. Metcalfe.)

MUREX TRIFORMIS. *Mur. testâ trigono-ovatâ, crassiusculâ, transversim liratâ et corrugatâ, tuberculis duobus aut pluribus inter varices; trifariam varicosâ; varicibus laminato-fimbriatis, supernè excavato-sinuatâ; ferrugineo-fuscâ; aperturâ ovatâ, supernè sinuatâ.*

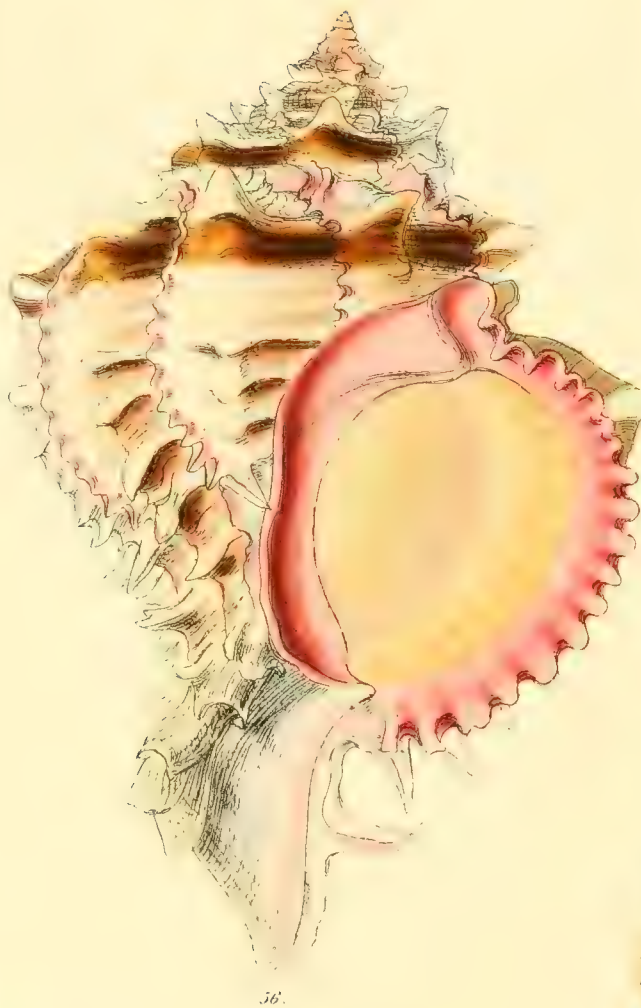
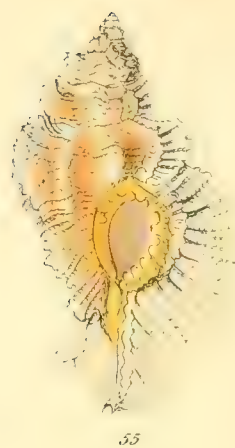
THE THREE-SHAPED MUREX. Shell triangularly ovate, ra-

ther thick, transversely ridged and wrinkled, with two or more tubercles between the varices; three varicose, varices laminately frilled, excavately sinuated at the upper part; rusty-brown; aperture ovate, sinuated at the upper part.

Murex acanthropterus, var., Sowerby, Conch. Illus., f. 51.

Hab. New Holland.

Several specimens of this shell have been lately received from New Holland, and it is now generally regarded as a species quite distinct from the *Murex acanthropterus*. It is of a more rude and solid structure, and of a dark rusty brown colour.



MUREX.

PLATE XIV.

Species 54. (Mus. Cuming.)

MUREX PELLUCIDUS. *Mur. testā trigono-fusiformi, tenui, transversim liratā, pulcherrimè squamatā, inter varices tuberculatā; trivariicosā, varicibus obliquis, latissimè et eximè alatis; pellucido-albā; aperturā parvā, labro intus nodoso.*

THE TRANSPARENT MUREX. Shell triangularly fusiform, thin, transversely ridged, very beautifully scaled, tuberculated between the varices; three-varicose, varices oblique, very widely and delicately winged; transparent white; aperture small, lip nodose within.

Murex trigonularis, Sowerby (not of Lamarck).

Hab. Island of Bantayan, Philippines (found upon a coral bottom at the depth of seven fathoms); Cuming.

Mr. Sowerby somewhat incautiously refers this shell to the *Murex trigonularis* of Lamarck, with whose description of which it certainly does not agree. Instead of this shell being rather smooth "*leviusculā*" it is covered with small scales; the winged varices are not very narrow "*perangustis*," but, on the contrary, very wide, and instead of their being two tubercles in the interstices between the varices "*tuberculis interstitiorum geminis*" there is but one. The sculpture is in most respects like that of the following species.

I therefore distinguish it by a new name, and consider Lamarck's *Murex trigonularis* to be either (with Mr. Gray) a worn *M. acanthropterus* or (with M. Kiener) a worn *M. phyllopterus*.

Species 55. (Mus. Cuming.)

MUREX TRIPTERUS. *Mur. testā ovato-fusiformi, transversim liratā, pulcherrimè squamatā, inter varices tuberculatā; trivariicosā, varicibus valdè obliquis, latè alatis; albā, columellā et aperturæ fauce luteo-aurantiis; columellā labroque intus conspicuè nodosis.*

THE THREE-SIDED MUREX. Shell ovately fusiform, transversely ridged, very beautifully scaled, tuberculated between the varices; three-varicose, varices very oblique, widely winged; white, columella and interior of the aperture yellowish orange; columella and lip conspicuously nodose within.

BORN, Mus. Cæs., p. 291. pl. 10. f. 18, 19.

Murex trialatus; Kiener.

Hab. Island of Ticao, Philippines (found on the reefs); Cuming.

This species differs from the preceding in having a much less acuminate spire, and in the columella being strongly nodose as well as the outer lip.

Species 56. (Mus. Taylor.)

MUREX BRASSICA. *Mur. testā subgloboso-ovatā, ventricosissimā, transversim striatā, striis confertis, peculiariter minutissimè crispato-nodulosis; prope varices, præcipuè supernè, tuberculatā, tuberculis brevibus, solidis; sexfariam vel octofariam varicosā, varicibus planis, decumbentibus, lamellæformibus, margine serratis, basem versus spinoso-squamatis; fuscescente, fasciis castaneis, interdum interruptis, cingulatā; columellā, labro, varicumque marginibus vividè purpureo-roseis, aperturæ fauce subaurantiā.*

THE CABBAGE MUREX. Shell somewhat globosely ovate, very ventricose, transversely striated, striæ close-set, peculiarly very minutely crisply nodulous, tuberculated near the varices, especially round the upper portion of each whorl, tubercles short, solid; six- or eight-varicose, varices flat, lying down, lamella-like, serrated at the edge, spinosely squamate towards the base; light brown, encircled, with sometimes interrupted, chesnut-brown bands; columella, lip, and edges of the varices rich purple-pink, interior of the aperture tinged with orange.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 581.

Murex ducalis, Broderip and Sowerby.

Hab. Gulf of California (found in rocky places at a depth of from four to six fathoms); Cuming.

This beautiful and very distinct species grows to more than twice the size of the example selected for representation in the accompanying plate.

The figure in Martini, Conchylien Cab., vol. iii. pl. 104. f. 986, to which M. Kiener refers for an illustration of the species, is not the *Murex brassica*, but may be quoted as affording an excellent representation of the *Murex calci-trapa* var β , (for which see Pl. III. Sp. 13.), *Murex brevifrons*, Lamarck.

Species 57. (Mus. Cuming.)

MUREX PINNATUS. *Mur. testā elongato-fusiformi, inter varices tuberculatā, transversim liratā et striatā, longitudinaliter squamato-striatā; trivaricosā, varicibus obliquis, alatis; albā; aperturā parvā.*

THE WINGED MUREX. Shell elongately fusiform, tuberculated between the varices, transversely ridged and striated, longitudinally squamately striated; three-varicose, varices oblique, winged; white, aperture small.

WOOD, Index Testaceologicus Supp., pl. 5. f. 20.

Hab. China.

The sculpture of this well-known Chinese species is very similar to that of the *Murex tripterus*.

Species 73. (Fig. 60, Mus. Saul.)

MUREX OSSEUS. *Mur. testā oblongo-ovatā, subfusiformi, læviusculā, inter varices fortiter tuberculatā; trivaricosā, varicibus fimbriato-laminatis, supernè falcatis; albā, castaneo-fusco hic illic, tinctā; aperturā peculiariter parvā, ovatā.*

THE BONY MUREX. Shell oblong-ovate, somewhat fusiform, rather smooth, strongly tubercled between the varices; three-varicose, varices fimbriately laminated, hooked at the upper part; white, stained here and there with chesnut-brown; aperture peculiarly small, oval.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

The *Murex pinniger* is perhaps the nearest allied species to this, though of very different form.



MUREX.

PLATE XV.

Species 58. (Mus. Saul.)

MUREX FENESTRATUS. *Mur. testā fusiformi-ovatā, supernè subangulatā, infernè contractā, inter varices longitudinaliter unicostatā, liris angustis pulcherrimè squamatis cingulatā, supernè tribus vel quaternis, in medio duabus, deinde ad basem duabus; lirarum interstitiis quadratis, excavatis; quadrifariam varicosā, liris transversis varices super erecto-fimbriatis; albidā, lirarum interstitiis castaneo- aut rubido-fuscis, varicibus vividè fusco-aurantiis; aperturā parvā, columellā labroque leviter nodulosis.*

THE WINDOW-SCULPTURED MUREX. Shell fusiformly ovate, somewhat angulated at the upper part, contracted at the lower, longitudinally single-ribbed between the varices, encircled with narrow very beautifully squamate ridges, three or four round the upper part, two round the middle, and two round the base, interstices between the ridges square, excavated; four-varicose, transverse ridges erectly fimbriated upon the varices; whitish, interstices between the ridges dark chesnut or reddish brown, varices bright fuscous orange; aperture small, lip and columella slightly nodulous.

CHEMNITZ, Conch. Cab. vol. x. pl. 161. f. 1536-1537.

Hab. — ?

I think M. Deshayes has erred in excluding the figures of Sowerby and Kiener from the synonymy of this remarkable species. This is undoubtedly the shell figured by Chemnitz, and not the violet-mouth shell of which M. Deshayes speaks. The figures hitherto published of it have all unfortunately been drawn from worn imperfect specimens, none of them exhibiting that beautifully scaled sculpture as seen on the back of the fimbriated digitations in the example here represented.

Species 59. (Mus. Cuming.)

MUREX REGIUS. *Mur. testā globoso-ovatā, crassiusculā, transversim peculiariter corrugato-striatā, et funiculatā, funiculis angustis, subdistantibus; sexfariam varicosā, varicibus duplicato-squamatis, squamis profundè canaliculatis, spinoso-serratis; fuscescēte-albā, roseo tinctā, varicum squamis intus roseis, suturis piceo-ni-*

gris; labro columellari erecto-expanso, intus et infernè vividè roseo, supernè conspicuè piceo-nigro; canali planiusculo, corrugato; labro fortiter denticulato.

THE ROYAL MUREX. Shell globosely ovate, rather thick, transversely peculiarly corrugately striated and corded, cords narrow, rather distant; six-varicose, varices consisting of a double row of deeply canaliculated, spinosely serrated scales; light brownish white, tinged with pink, interior of the scales pink, sutures pitch-black; columellar lip erectly expanded, bright pink towards the interior and lower part, pitch-black at the upper; canal rather flat, curiously wrinkled or indented; lip strongly denticulated.

WOOD, Ind. Test. Supp., pl. 5. f. 13.

Phyllonotus regius, Swainson.

Hab. Panama (found on mud banks at low water); Cuming.

No one can fail to recognise this magnificent and well-known species.

Species 37. (Plates X. and XV. Fig. 37.)

MUREX AXICORNIS. *Mur. testā ovato-fusiformi, transversim striatā, striis minutissimè nodulosis, scabrosis; trifariam varicosā, varicibus conspicuè frondosis, frondibus rariusculis, elongatis, dilatato-ramosis, spinosis; roseo-fuscescente; aperturā parvā, subrotundā.*

THE AXIS' HORN MUREX. Shell ovately fusiform, transversely striated, striæ very minutely noded, scabrous; three-varicose, varices conspicuously frondose, fronds rather few in number, elongated, dilately branched, spinous; pinkish brown; aperture small, nearly round.

Variety β (Plate X. Fig. 37. Mus. Saul.)

Testa grandior, elongatior, frondibus brevioribus, minus dilatato-ramosis, purpureo-nigricantibus.

Shell larger, more elongated, with the fronds shorter, less dilately branched, and of a purple-black colour.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 574.

Hab. Island of Bohol, Philippines (dredged from the depth of twelve fathoms); Cuming.

I had selected the variety β for illustration in Plate X. Fig. 37. with the view of describing it as a new species; upon

mature examination, however, I am obliged to concede to the opinion held by Mr. Sowerby as to its being a variety of the *Murex axicornis*.

Axis was a name given by the ancients to an animal of the deer tribe, recorded by Pliny as being held sacred to Bacchus.

Species 60. (Mus. Cuming.)

MUREX ACULEATUS. *Mur. testā fusiformi, transversim striatā, inter varices subobsoletè bituberculatā; trifariam varicosā, varicibus frondosis, frondibus rariusculis, dilatato-ramosis, spinosis; roseo-fuscescente, varicibus,*

columellā, apice basique vivide rosaceis; aperturā parvā, labro minutè denticulato.

THE PRICKLY MUREX. Shell fusiform, transversely striated, somewhat obsoletely tuberculated between the varices; three-varicose, varices frondose, fronds rather few, dilately branched, spinous; pinkish brown, varices, columella, apex and base deep pink; aperture small, less minutely denticulated.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 575.
Hab. Moluccas.

A beautiful little species, richly suffused throughout with a delicate pink tinge.



61 a



61 b



62



63



65



64



66

MUREX.

PLATE XVI.

Species 61. (Fig. *a*, Mus. Cuming; Fig. *b*, Mus. Norris.)

MUREX FALCATUS. *Mur. testā abbreviato-fusiformi, spirā brevi, angulato-turritā, liris parvis longitudinalibus et transversis apicem versus clathratis; quinquevaricosā, varicibus laminato-alatis, supernè falcatis, margine involuto; albā, rubido-fusco tinctā; aperturā parvā; canali subelongato.*

THE HOOKED MUREX. Shell abbreviately fusiform, spire short, angularly turreted, latticed towards the apex with small longitudinal and transverse ridges; five-varicose, varices laminately winged, hooked at the upper part, with the edge turned inwards; white, stained with reddish-brown; aperture small; canal rather elongated.

SOWERBY, Pro. Zool. Soc., 1840.

Eadem. *Murex aduncus*, Sowerby.

Hab. Japan.

By permission of Thomas Norris, Esq., I have represented at Fig. 61 *a*, the specimen described by Mr. Sowerby under the name of *Murex aduncus*. It appears merely to exhibit a slight modification of growth without any variation of specific importance.

Species 62. (Mus. Cuming.)

MUREX PINNIGER. *Mur. testā fusiformi, supernè obsoletè liratā, tuberculo solido prominulo inter varices; trivaricosā, varicibus alaeformibus, supernè laciniato-fulcatis, ad basem alatis; purpurascēte-albā, fusco hic illic tinctā et punctatā; aperturā peculiariter parvā.*

THE WING-BEARING MUREX. Shell fusiform, obsoletely ridged at the upper part, with a solid prominent tubercle between the varices; three-varicose, varices wing-like, laciniately hooked at the upper part, winged at the base; purplish white stained and spotted here and there with brown.

BRODERIP, Pro. Zool. Soc., 1832.

Murex cristatus, Gray (not Brocchi).

Hab. Xipixapi, West Columbia (dredged from sandy mud at the depth of eight fathoms); Cuming.

The varices of this species are peculiarly thin and flattened though a little waved and serrated at the edge; and they are developed in a curious winged manner at the base.

Species 63. (Mus. Saul.)

MUREX PHYLLOPTERUS. *Mur. testā trigono-oblongā, sub-fusiformi, inter varices obtusè tuberculatā, transversim liratā, liris latiusculis, subobsoletis, distantibus; trivaricosā, varicibus radiatim laminatis, alaeformibus; albā, fasciis latiusculis castaneo-fuscis inter varices conspicuè pictā; canali breviusculo.*

THE LEAF-WINGED MUREX. Shell triangularly oblong, somewhat fusiform, obtusely tuberculated between the varices, transversely ridged, ridges rather broad, somewhat obsolete, distant; three-varicose, varices radiately laminated, wing-like; white, conspicuously painted between the varices with rather broad chesnut brown bands; canal rather short.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 577.

Murex trialatus, Sowerby.

Hab. — ?

This shell may probably be a dark banded variety, and not the type, of Lamarck's species; it is, however, the only specimen at present known in this country, and the only one I remember to have seen.

Species 64. (Mus. Cuming.)

MUREX ACANTHOPTERUS. *Mur. testā trigono-fusiformi, anfractibus supernè angulatis, transversim liris et striatis; trivaricosā, varicibus laminato-alatis, membranaceis, supernè canaliculato-falcatis; albā, interdum fuscēscēte sparsim tincta; canali longiusculo.*

THE SPINE-WINGED MUREX. Shell triangularly fusiform, whorls angulated at the upper part, transversely ridged and striated; three-varicose, varices laminately winged, membranaceous, canaliculately hooked at the upper part; white, sparingly stained with light brown; canal rather long.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 577.

Hab. — ?

The varices of this species exhibit a very peculiar canaliculated structure at the upper part, which ranges on the spire in rows of prominent spine-like hooks.

Species 65. (Mus. Cuming.)

MUREX GAMBIENSIS. *Mur. testā fusiformi, infernè attenuatā, solidiusculā, transversim obsoletè striatā, tuber-*

culo magno prominulo inter varices; trivaricosā, varicibus plicato-laminatis, supernè falcatis, ad basem alatis; albā, fusco hic illic punctatā; aperturā parvā; canali longiusculo.

THE GAMBIA MUREX. Shell fusiform, attenuated at the lower part, rather solid, transversely obsoletely striated, with a large prominent tubercle between the varices; three-varicose, varices plicately laminated, hooked at the upper part, winged at the base; white, dotted here and there with brown; aperture small; canal rather long.

REEVE, Pro. Zool. Soc., 1845.

Hab. Mouth of the Gambia, west coast of Africa.

Closely allied to the *Murex pinniger*, but of a more elongated structure, and different style of colouring.

Species 66. (Mus. Cuming.)

MUREX CERVICORNIS. *Mur. testā fusiformi, transversim liratā et striatā; trifariam varicosā, varicibus frondosis, frondibus erectis, superioribus bifurcatim elongatis; albā; aperturā subrotundā; canali longiusculo, recurvo.*

THE STAG'S HORN MUREX. Shell fusiform, transversely ridged and striated; three-varicose, varices frondose, fronds erect, upper ones bifurcately elongated; white, aperture nearly round; canal rather long, recurved.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 575.

Hab. — ?

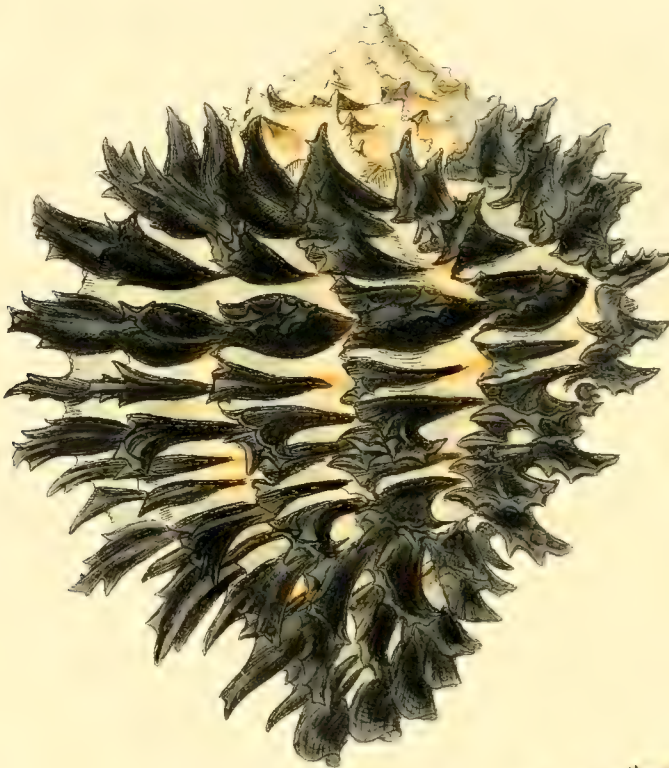
A rare and elegantly formed species, well distinguished by the curious two-forked growth of the upper fronds of the varices.



67



68



69



70 a



70 b

MUREX.

PLATE XVII.

Species 67. (Mus. Norris.)

MUREX CRISPUS. *Mur. testâ ovato-pyriformi, transversim lirâtâ, liris prominentibus, alternis majoribus, spiræ suturis plano-depressis; multivaricosâ, varicibus ad decenis, confertis, squamis subobtusis brevibus compressis undique armatis; virescente-albâ, squamis lirisque nigricante-fuscis; canali breviusculo.*

THE CRISPED MUREX. Shell ovately pyriform, transversely ridged, ridges prominent, alternate ridges the larger, sutures of the spire flatly depressed; many-varicose, varices about ten to a whorl, close-set, armed throughout with short rather obtuse compressed scales; greenish white, scales and ridges blackish brown; canal rather short.

BRODERIP, Pro. Zool. Soc., 1832.

Hab. Pacamayoy, coast of Peru (found on a reef at a depth of about twenty-five fathoms, twelve miles from the shore); Cuming.

Only two or three specimens of this very rare and remarkable species appear to have been yet discovered.

Species 68. (Mus. Taylor.)

MUREX STAINFORTHII. *Mur. testâ globoso-ovatâ, subpyriformi, transversim lirâtâ, liris angustis, granosis, interstitiis corrugatis; septifariam varicosâ, varicibus densissimè frondosis, frondibus brevibus confertis, acutissimè muricato-ramosis; albidâ vel aurantio-fuscescente, frondibus lirisque nigricante-fuscis, columellâ et aperturæ fauce vividè aurantiis; aperturâ ovatâ, labro crenato; canali breviusculo.*

STAINFORTH'S MUREX. Shell globosely ovate, somewhat pyriform, transversely ridged, ridges narrow, granose, interstices wrinkled; seven-varicose, varices unusually thickly frondose, fronds short, close-set, very sharply prickly branched; white or orange-brown, fronds and ridges blackish brown, columella and interior of the aperture bright orange; aperture ovate, lip crenated; canal rather short.

REEVE, Pro. Zool. Soc., 1842.

Hab. North coast of New Holland; H.M.S. Beagle.

I had the pleasure of describing this very characteristic species about three years since from a specimen in the cabinet of Mr. Inwood, now in the possession of Mr. Burt, the only one at that time known. Several examples have been since brought from New Holland by H.M.S. Beagle, but none with the beautiful ramose structure of the varices more fully developed than in the original specimen. Each varix is composed of a number of very close-set prickly fronds, sometimes one or two successive layers of them,

which from their delicate structure appear to become very soon eroded. No specimens of this shell have yet been seen without the back varices being more or less destroyed.

Species 69. (Mus. Cuming.)

MUREX RADIX. *Mur. testâ globosâ, crassissimâ, solidâ, spirâ brevi, acuminatâ, transversim lirâtâ, liris inæqualibus; multivaricosâ, varicibus ad decenis muricato-squamatis, squamis brevibus, solidis, alternis majoribus; albâ, squamis aterrimis; canali brevi.*

THE ROOT MUREX. Shell globose, very thick, solid, spire short, acuminate, transversely ridged, ridges unequal; many-varicose, varices about ten to a whorl, prickly squamate, scales short, solid, alternate ones the larger; white, scales jet black; canal short.

GMELIN, Syst. Nat., p. 3527.

Hab. Bay of Caraccas, West Colombia (found on mud banks at low water); Cuming.

This species may be distinguished by its massive structure, round globose form, and by the numerous varices characterised by the compressed stunted growth of the scales.

Species 70. (Mus. Cuming.)

MUREX NITIDUS. *Mur. testâ ovato-pyriformi, transversim lirâtâ, liris valdè inæqualibus; septifariam vel octofariam varicosâ, varicibus squamatis, squamis elongatis, erectis, muricatis; albâ, squamis nigerrimo-fuscis, basi fuscis, liris nigris et fuscis; aperturâ subparvâ.*

THE NEAT MUREX. Shell ovately pyriform, transversely ridged, ridges very unequal; seven- or eight-varicose, varices squamate, scales elongated, erect, prickly; white, scales very black brown, brown at the base, ridges black and brown; aperture rather small.

BRODERIP, Pro. Zool. Soc., 1832.

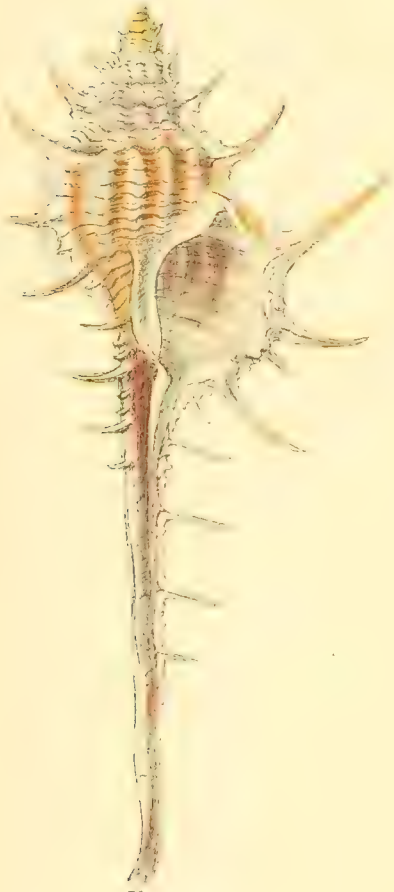
Hab. Guacomayo, Central America (found on the coral reefs at low water); Cuming.

This species was originally described by Mr. Broderip from a young prettily filleted specimen, of which there is a representation in Sowerby's 'Conchological Illustrations,' *Murex*, Fig. 4. It was considered at that time to be unique, though Mr. Sowerby pronounced it to be "probably a variety of the *Murex princeps* in a young state.

The fine full grown shell here figured was obtained by Mr. Cuming in nearly the same locality as the small specimen; other examples since come to hand show their specific connection, and the species now proves to be distinct from the *Murex radix* in all stages of growth.



71



72



73

MUREX.

PLATE XVIII.

Species 71. (Mus. Cuming.)

MUREX CORNUTUS. *Mur. testā claviformi, tenui, ventricosā, transversim subtiliter sulcatā et striatā, spirā subdepressā, suturis profundis; septifariam varicosā, varicibus planulatis, spinis duabus tribusve canaliculatis longissimis recurvis armatis; cinereo-fuscā, interdum rufo zonatā; canali longissimo, spiraliter longispinoso; labro columellari tenui, erecto-expanso.*

THE HORNED MUREX. Shell club-shaped, thin, ventricose, transversely finely grooved and striated, spire somewhat depressed, sutures deep; seven-varicose, varices flattened, each armed with two or three very long canaliculated spines; ashy brown, sometimes zoned with fulvous red; canal very long, armed with spiral rows of long spines; columellar lip thin, erectly expanded.

Variety β .

Testa lactea.

Shell cream-coloured.

LINNÆUS, Syst. Nat., p. 1214.

Hab. Mouth of the Gambia, western coast of Africa (found in rocky places); Lieut. Babb.

I have figured the cream-coloured variety of this well-known species for the sake of novelty.

Species 72. (Mus. Taylor.)

MUREX MARTINIANUS. *Mur. testā trigono-claviformi, transversim liratā, liris nodulosis, inæqualibus; trifa-*

riam varicosā, varicibus rarispinosis, spinis breviusculis; luteo- vel griseo-cærulescente, canali fuscescente; aperturā ovatā, labro dente planulato, erecto, munito; canali longissimo, recto, supernè spinoso.

MARTINI'S MUREX. Shell triangularly club-shaped, transversely ridged, ridges nodulous, unequal; three-varicose, varices few-spined, spines rather short; yellowish or greyish blue, canal brownish; aperture ovate, lip furnished with an erect flattened tooth; canal very long, straight, spined towards the upper part.

REEVE, Pro. Zool. Soc., 1845; Martini, Conch. Cab., vol. iii. pl. 113. f. 1056.

Murex rarispina, Sowerby (not of Lamarck.)

Hab. — ?

A careful examination of the description of Lamarck's *Murex rarispina* has now led me to believe with MM. Kiener and Deshayes that it more correctly applies to the shell described by Mr. Sowerby under the name of *Murex formosus*. The figure, however, in Martini's 'Conch. Cab.' to which Lamarck refers for the illustration of that species, affords a characteristic representation of this; and it is unquestionably distinct from the *Murex tribulus* or any species hitherto described.

For account of Fig. 73, see the following plate, Species 76; and for Species 73, see Plate XIV. Fig. 60.



MUREX.

PLATE XIX.

Species 74. (Mus. Metcalfe.)

MUREX FUNICULATUS. *Mur. testā clavæformi, transversim liratā, liris ad summitatem funiculatis, costis tribus vel quaternis plicæformibus longitudinalibus inter varices; trivariicosā, varicibus spinosis, spinis brevibus, acutis, sursum inclinatis; fuscescente-albā, funiculis transversis castaneis; aperturā ovatā, columellā labroque intus noduliferis; canali elongato.*

THE CORDED MUREX. Shell club-shaped, transversely ridged, ridges corded at the summit, with three or four longitudinal plait-like ribs between the varices; three-varicose, varices spinous, spines short, sharp, inclined upwards; brownish white, transverse cords dark chesnut brown; aperture ovate, columella and lip noduliferous within; canal elongated.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

An interesting species, well characterised by the fine dark chesnut brown cords with which it is encircled throughout at equal distances.

Species 75. (Mus. Cuming.)

MUREX RECURVIROSTRIS. *Mur. testā clavæformi, transversim liratā, costis tribus plicæformibus longitudinalibus inter varices; trivariicosā, varicibus grandibus rotundis, spinis paucis brevissimis minutis muricatis; cinereo-nigricante, fuscescente zonatā; canali elongato, recurvo,*

THE RECURVED BEAK MUREX. Shell club-shaped, transversely ridged, with three plait-like longitudinal ribs between the varices; three-varicose, varices large, round, muricated with a few very short minute spines; ashy black, zoned with light brown; canal elongated, recurved.

BRODERIP, Pro. Zool. Soc., 1832.

Hab. Gulf of Nicoiyo, Central America (found in sandy mud at the depth of about nine fathoms); Cuming.

The varices of this species are unusually large and swollen, with a minute spine sprouting up here and there.

Species 76. (Fig. 76. Mus. Saul; and Fig. 73, Pl. XIX. Mus. Cuming.)

MUREX TERNISPINA. *Mur. testā elongato-clavæformi, transversim liratā, liris parvis, inæqualibus, interstitiis corrugatis; trifariam varicosā, varicibus spinosis, spinis gracilibus, ternis prælongis, intermediis breviusculis; canali longissimo, spinoso, spinis alternis prælongis, horizontalibus, alternis breviusculis, erectis; lutescente-aut cinereo-griseā; aperturā ovatā, labro dente planulato erecto munito.*

THE TRIPLE-SPINE MUREX. Shell elongately club-shaped, transversely ridged, ridges small, unequal, interstices wrinkled; three-varicose, varices spinous, spines slender, three very long, alternate ones rather short; canal very long, spinous, spines alternately very long and rather short, the long spines being horizontal, the short ones erect; yellowish or ashy grey; aperture ovate, lip furnished with a flattened erect tooth.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 567.

Hab. Island of Negros, Philippines; Cuming.

This shell I conceive to be the true *Murex ternispina* of Lamarck, and not that figured for it by Kiener.

Species 77. (Mus. Taylor.)

MUREX BREVISPINA. *Mur. testā clavæformi, tenuiculā, transversim striatā, inter varices nodosā; trifariam varicosā, varicibus spinis brevibus obesusculis armatis; fuscescente-albā; canali elongato, supernè brevispinoso; aperturā ovatā, labro dente planulato erecto munito.*

THE SHORT-SPINE MUREX. Shell club-shaped, rather thin, transversely striated, nodose between the varices; three-varicose, varices armed with rather stout short spines; brownish white; canal elongated, short-spined; aperture ovate, furnished with an erect flattened tooth.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 567.

Hab. Coast of Arabia.

This species has generally a double row of nodules between the varices.

Species 78. (Mus. Cuming.)

MUREX MINDANENSIS. *Mur. testā elongato-clavæformi, transversim liratā, costis tribus plicæformibus inter varices; trifariam varicosā, varicibus rotundis, spinis brevibus acutis canaliculatis muricatis; lutescente-albā, varicibus aurantio-fusco pallidè maculatis; canali elongato, infernè sinuato-recurvo.*

THE MINDANAO MUREX. Shell elongately club-shaped, transversely ridged, with three plait-like ribs between the varices; three-varicose, varices round, muricated

with short sharp canaliculated spines; yellowish-white, varices spotted with pale orange brown; canal elongated, sinuately recurved at the lower part.

SOWERBY, Pro. Zool. Soc., 1840.

Hab. Cagayan, Island of Mindanao, Philippines (dredged from sandy mud at the depth of twenty-five fathoms); Cuming.

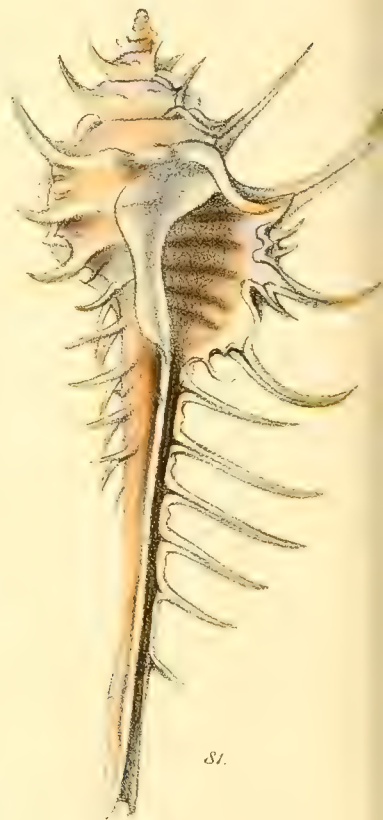
This species has somewhat the appearance of an elongated *Murex rarispina* (*Murex formosus*, Sowerby), divested of its three long anterior spines.



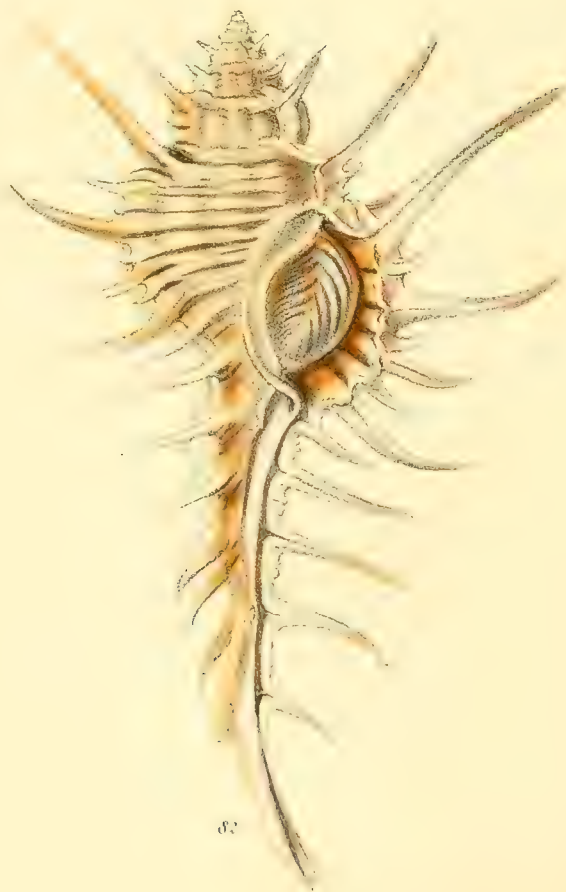
79



80



81



82

MUREX.

PLATE XX.

Species 79. (Mus. Saul.)

MUREX NIGRISPINOSUS. *Mur. elongato-clavaformi, transversim liratā et striatā, liris inæqualibus, subnodosis, spirā breviusculā; trifariam varicosā, varicibus spinosis, spinis erecto-elongatis; canali elongato, ad extremitatem leviter recurvo, spinoso, spinis longis, subcurvatis, purpurascente-albā, fuscis tribus vel quaternis fuscescentibus subindistinctè cingulatā, spinis purpureo-nigricantibus.*

THE BLACK-SPINED MUREX. Shell elongately club-shaped, transversely ridged and striated, ridges unequal, slightly nodose; spire rather short; three-varicose, varices spinous, spines erectly elongated; canal elongated, slightly curved back at the extremity, spined, spines long, a little curved; purplish white, somewhat indistinctly encircled with three or four light brown bands, spines purple-black.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

This shell should, I think, be distinguished from the *Murex tribulus*, to which it is most nearly allied. Its characters throughout present an agreeable modification which is constant in all the examples I have seen.

Species 80. (Mus. Cuming.)

MUREX PLICIFERUS. *Mur. testā ovato-fusiformi, medio ventricosā, transversim subtiliter liratā, liris angustis, numerosis, rugis minutis longitudinalibus undique granoso-decussatis; tuberculis duobus plicato-elongatis inter varices; trivricosā, varicibus spinis canaliculatis brevibus inæqualibus, quarum unā anticā subconspicuā, armatis; albā, aurantio-fuscescente pallidè tinctā; canali subelongato, recurvo.*

THE PPLICATED MUREX. Shell ovately fusiform, ventricose in the middle, transversely finely ridged, ridges narrow, numerous, granosely decussated throughout with minute longitudinal wrinkles, with two plicately elongated tubercles between the varices; three-varicose, varices armed with short unequal canaliculated spines one anterior of which is conspicuous; white, faintly tinged with orange-brown; canal rather elongated, recurved.

SOWERBY, Pro. Zool. Soc., 1840.

Hab. — ?

A fine species, of which I do not remember to have seen any other specimen. The back of it is well figured in Sowerby's 'Conchological Illustrations,' *Murex*, f. 101.

Species 81. (Mus. Saul.)

MUREX OCCA. *Mur. testā clavaformi, lævi, aut obsolete striatā; anfractibus supernè angulatis, nodis duobus inter varices ad angulum armatis; trifariam varicosā, varicibus spinosis, spinis longiusculis, sursum inclinatīs; luteo- aut cinereo-cærulescente; canali longissimo, recto, trifariam spinoso; aperturā ovatā, labro dente planulato erecto munito.*

THE HARROW MUREX. Shell club-shaped, smooth or obsoletely striated; whorls angulated at the upper part, armed upon the angle between the varices with two nodules; three-varicose, varices spinous, spines rather long, bent upwards, yellowish or ashy blue; canal very long, straight, armed with three rows of spines; aperture ovate, lip furnished with an erect flattened tooth.

SOWERBY, Pro. Zool. Soc., 1840; Conch. Illus., *Murex*, f. 45.

Hab. Island of Nicobar (found in sandy mud); Commodore Ludlin.

An excellent species which may be recognised by the smooth, angular structure of the spire, and the upward inclination of the spines.

Species 82. (Mus. Metcalfe.)

MUREX TRIBULUS. *Mur. testā trigono-clavaformi, transversim obtuso-liratā, liris alternis majoribus, interstitiis rugosis; trifariam varicosā, varicibus spinosis, spinis longiusculis, validis, infernè crassis; pallidè fulvā, liris fusco alboque plus minusve distinctè articulatis; canali longissimo, recurvo.*

THE BRAMBLEX MURE. Shell triangularly club-shaped, transversely obtusely ridged, alternate ridges the larger, interstices wrinkled; three-varicose, varices spinous, spines rather long, strong, thick at the base; pale fulvous white, ridges more or less distinctly articulated with brown or white; canal very long, recurved.

LINNÆUS, Syst. Nat., 12th edit., p. 1214.

Murex crassispina, Lamarck (not of Kiener).

Murex ternispina, Kiener (not of Lamarck).

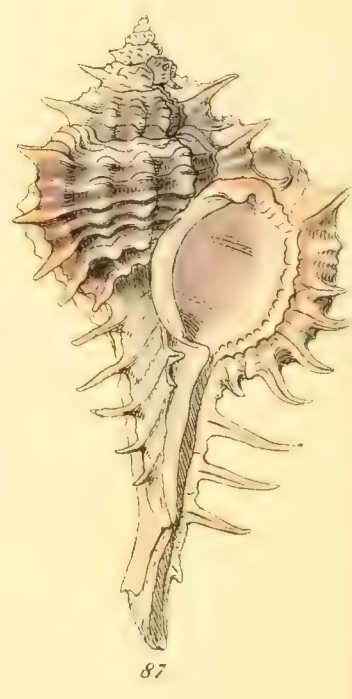
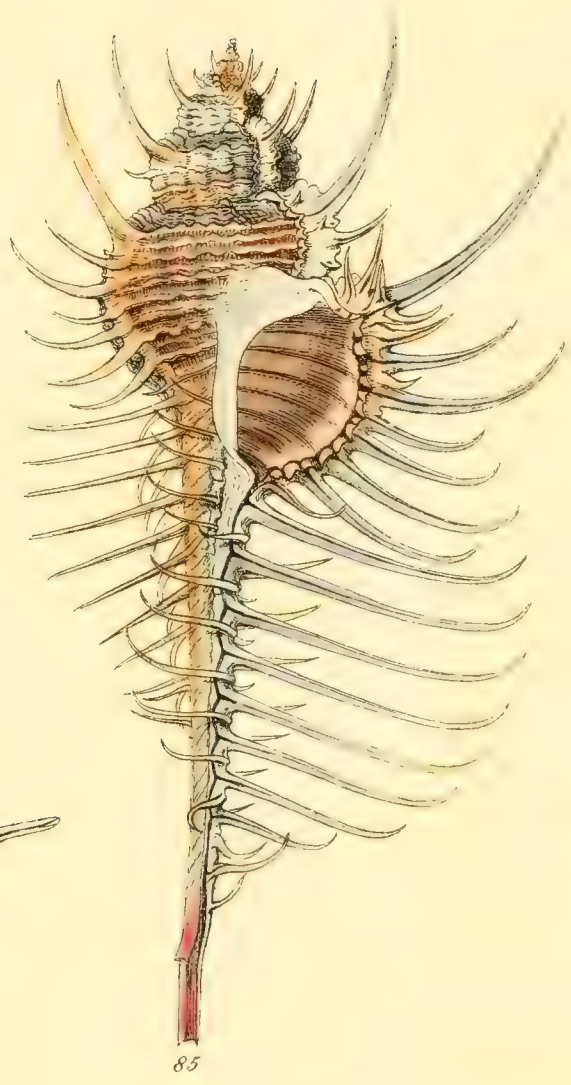
Hab. Eastern Seas.

M. Deshayes' note on this species in his edition of Lamarck's 'Anim. sans vert.' so admirably exposes the complicated series of errors connected with it, that I cannot do better than give a free translation:—

"It is very certain that this species (*Murex crassispina*, Lamarck), is the same as that named *Murex tribulus* by Linnæus. Lamarck recognised it himself in citing the Linnæan name at the commencement of his synonymy; and should have restored to the species a name which it ought never to have lost. It is true that Linnæus refers, amongst others, to some figures of the *Murex tenuispina* for the illustration of his *Murex tribulus*; but this confusion, easy to rectify, does not authorise a change of name." "It should be observed that Lamarck confounded two very distinct species in his synonymy of *Murex crassispina*; one, the true *Murex tribulus* of Linnæus,—Martini, Conch. Cab. vol. iii. pl. 113. f. 1053, 1350, which name should be adopted; the other, the *Murex tribulus maximus* of Chem-

nitz,—Conch. Cab. vol. xi. pl. 189. f. 1819, 1820, (for which see Pl. XXII. Fig. 89.), described by Dillwyn under the new title of *Murex scolopax*. This *Murex* had been already figured by Martini, Conch. Cab. vol. iii. pl. 113. f. 1052, as a variety of *M. tribulus*; and a further error arises on the part of Mr. Sowerby, in his 'Catalogue of Murices' in the 'Conchological Illustrations.' For the *Murex crassispina*, Lamarck, he refers to Martini's, f. 1052; and for the *Murex scolopax*, Dillwyn, to Chemnitz's, f. 1819, 1820, without perceiving that they represent exactly one and the same species. M. Kiener falls into a similar error, and neither author having searched for the origin of these species, they have both committed themselves in not having figured the true *Murex tribulus* at all."

In reference to the latter part of this remark I may observe, that the shell figured by Kiener for the *Murex ternispina* is in my opinion the *Murex tribulus*; the true *Murex ternispina* being correctly figured by Sowerby, Conch. Illus. f. 110, and by myself, Pl. XVIII. f. 73, and Pl. XIX. f. 76, in my account of which the differences between these two so closely approximating species are detailed.



MUREX.

PLATE XXI.

Species 83. (Mus. Cuming.)

MUREX CHRYSOSTOMA. *Mur. testā abbreviato-clavæformi, transversim noduloso-striatā, tuberculis tribus aut pluribus inter varices; trifariam varicosā, varicibus rotundis, tuberculato-liratis, spinā validā breviusculā curvatā ad basem; olivaceo-cinereā, luteo tinctā et maculatā; columellā corrugatā, rufo-aurantio tinctā; canali subelongato, recurvo.*

THE GOLDEN MOUTH MUREX. Shell abbreviately club-shaped, transversely nodulously striated with three or four tubercles between the varices; three-varicose, varices round, tuberculately ridged, with a strong rather short curved spine at the base; olive-ash colour, stained and spotted with yellow; columella wrinkled, stained with rufous orange; canal somewhat elongated, recurved.

GRAY; Sowerby, Conch. Illus. Cat., *Murex*; no. 8. f. 1.
Hab. Gulf of Mexico.

This shell is of a peculiar dark olive ash colour, tinged and irregularly stained with yellow; the edge of the lip and of the varices is festooned, in a manner, with reddish brown; and the columellar lip is coloured in places with rich rufous orange.

Species 84. (Mus. Cuming.)

MUREX BELLUS. *Mur. testā clavæformi, transversim liratis, liris tuberculato-nodosis; trivaricosā, varicibus rotundis, tuberculato-liratis, spinā brevi acutā ad basem; albicante, castaneo-fusco supra et infra maculatā, liris castaneo conspicuè funiculatis, columellā labroque rufo-aurantio tinctis; canali subelongato.*

THE PRETTY MUREX. Shell club-shaped, transversely ridged, ridges tubercularly noded throughout; three-varicose, varices round, tuberculately ridged, with a short sharp spine at the base; whitish, spotted above and below with chesnut brown, ridges conspicuously corded with chesnut-brown, lip and columella stained with rufous-orange; canal rather elongated.

REEVE, Pro. Zool. Soc., 1845.
Hab. — ?

Allied to the preceding species in respect to its rufous orange mouth, but of a different colour and sculpture throughout.

Species 85. (Mus. Cuming.)

MUREX TENUISPINA. *Mur. testā elongato-clavæformi, transversim noduloso-liratā, interstitiis rugis longitudinalibus clathratis; trifariam varicosā, varicibus parvis, planiusculis, longispinosis; canali elongato, sexfariam spinoso, spinarum seriebus alternis longissimis tenuibus horizontalibus ad extremitatem aduncis, alternis parvis intermediis erectis; cinereo- aut cærulescente-fuscā, aperturæ fauce nigricante-fusco lineatā.*

THE THIN-SPINE MUREX. Shell elongately club-shaped, transversely nodulously ridged, interstices latticed with longitudinal wrinkles; three-varicose, varices small, rather flattened, long-spined; canal elongated, armed with six rows of spines, three rows of very long thin horizontal spines bent inwards at the end, alternating with three rows of small erect intermediate spines; ashy or blueish brown, interior of the aperture lineated with blackish brown.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 566.
Hab. Eastern Seas.

No one can fail to admire the very delicate and beautiful structure of this well-known species.

Species 86. (Mus. Cuming.)

MUREX RARISPINA. *Mur. testā trigono-clavæformi, transversim nodoso-liratā; trifariam varicosā, varicibus spinosis, spinā anticā prælongā, subcurvā, cæteris brevissimis irregularibus; fusciscente, roseo-violascente tinctā; canali subelongato, ascendente.*

THE RARE-SPINE MUREX. Shell triangularly club-shaped, transversely nodosely ridged; three-varicose, varices spinous, the anterior spine of each very long, a little curved, the rest very short, irregular; pale brown, tinged with pinkish violet; canal somewhat elongated, ascending.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 567.
Murex formosus, Sowerby.
Hab. — ?

I quite agree with MM. Kiener and Deshayes in assigning this shell to Lamarck's *Murex rarispina*; but the mischievous tendency of an observation in reference to it by M. Kiener must be exposed. It is stated by that author

that "the varieties of the *Murex rarispina* are very numerous, and have served for the establishment of several species which cannot be preserved, such as the *M. plicatus*, *pliciferus*, and *Mindanensis*." It is only necessary to refer my readers to the descriptions and figures of those species to show that M. Kiener must have been totally unacquainted with them, for their specific characters are really determinable at a glance.

Species 87. (Mus. Cuming.)

MUREX PLICATUS. *Mur. testā, abbreviato-claviformi, crassiusculā, transversim nodoso-liratā, longitudinaliter plicatā; trifariam varicosā, varicibus rotundis, spinosis, spinis brevibus, obtusis; canali subelongato, recto, trifariam spinoso, spinis obesis, longioribus; fuscescente, purpureo-cinereo tinctā et fasciatā.*

THE PPLICATED MUREX. Shell abbreviately club-shaped, rather thick, transversely nodosely ridged, longitudi-

nally plicated, three-varicose, varices round, spinous, spines short, obtuse; canal somewhat elongated; straight, armed with three rows of stout longer spines; pale brown, tinged and banded with purple ash colour.

SOWERBY, Pro. Zool. Soc., 1840.

Hab. Gulf of Nicoiyo (found in coarse sand at the depth of twelve fathoms); Cuming.

No two species of a group could be pronounced to be more truly distinct than this and the *Murex rarispina*. The latter is a light delicately formed shell, distinguished by the prominent developement of the extreme anterior spine of each varix over the rest which are very short, irregular, and scale-like; the latter is a shell of rather rude obtuse structure, in which the spines are stout and solid, and exhibit this peculiarity of distribution,—that whilst upon the varices they are extremely short and in some cases almost obsolete, upon the canal they are comparatively long.



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MUREX.

PLATE XXII.

Species 97. (Fig. 87, H.M. The King of Denmark.)

MUREX TRIGONULUS. *Mur. testâ trigono-fusiformi, curvatâ, transversim nodoso-liratâ, ad basem striatâ et costatâ, longitudinaliter plicatâ; trifariam varicosâ, varicibus tuberculiferis, ad basem plicato-laminatis; canali subelongato-recurvo; lutescente-albâ, roseo tinctâ et nebulosâ, macularum quadratarum fusciscentium seriebus duabus ornatâ.*

THE TRIANGULAR MUREX. Shell triangularly fusiform, curved, transversely nodosely ridged, striated and ribbed at the base, longitudinally plicated; three-varicose, varices tuberculiferous, plicately laminated at the base; canal somewhat elongately recurved; yellowish white, stained and clouded with pink, ornamented with two rows of square pale brown spots.

LAMARCK, *Anim. sans vert.* (Deshayes' edit.), vol. ix. p. 581.

Hab. Red Sea.

This important shell, from the private collection of H.M. The King of Denmark at Copenhagen, is the only example of the species that I have seen with the canal properly developed. Those figured by Sowerby, Kiener, and in the 'Encyclopédie Méthodique,' being worn specimens, and all having the delicate recurved canal positively broken off. It may be recognised by the characteristic plicated lamina into which the varices terminate at the base, and by its strong scarlet-pink colouring.

It may be as well to repeat that the *Murices triqueter* and *trigonulus* are figured in the 'Encyclopédie Méthodique' and by Kiener, the one for the other.

Species 88. (Mus. Cuming.)

MUREX MOTACILLA. *Mur. testâ clavæformi, crassiusculâ, transversim lirâtâ, liris angustis, subnodosis, tuberculis prominentibus inter varices; trifariam varicosâ, varicibus rotundis, spinâ brevi acutâ anticè armatâ, posticè laminatâ et spinoso-squamatâ; canali attenuato, lateraliter recurvo; albicante, maculis fasciisque rufo-fuscis profusè tinctâ.*

THE WAGTAIL MUREX. Shell club-shaped, rather thick, transversely ridged, ridges narrow, slightly nodose, with two prominent tubercles between the varices; three-varicose, varices round, armed anteriorly with a sharp short spine, posteriorly laminated and spinosely scaled; canal attenuated, laterally recurved; whitish,

profusely stained with reddish brown bands and blotches.

CHEMNITZ, *Conch. Cab.*, vol. x. pl. 163. f. 1563.

Murex motacilla, var. *b*, Lamarck.

Hab. Senegal.

The shell which Lamarck describes for the *Murex motacilla* of Chemnitz, is one of very opposite character, now known to conchologists as the *Murex elegans*; his var. *b*. is the true species.

Mr. Sowerby described the *Murex elegans* in the 'Proceedings of the Zoological Society' for 1840, and figured it in his 'Conchological Illustrations,' f. 84, without discovering it to be Lamarck's *Murex motacilla*. He moreover published a drawing of another shell at Fig. 69, as a variety of *Murex motacilla*, which has little or no affinity with it, and which I propose to distinguish by the new title of *Murex articulatus*.

M. Kiener very properly distinguishes, and correctly figures, the *Murices elegans* and *motacilla*, confounded together by Lamarck; but ludicrously applies to his *M. motacilla* the description which Lamarck drew up from the now called *M. elegans*.

Species 89. (Mus. Brit.)

MUREX SCOLOPAX. *Mur. testâ elongato-clavæformi, lævi, aut transversim obsoletè striatâ et lirâtâ, liris distantibus; trifariam varicosâ, varicibus spinosis, spinis solidiusculis, subdistantibus, sursum inclinatis; canali sexfariam spinoso, seriebus alternis spinis fortibus longissimis, horizontalibus, alternis spinis minutis erectis; albicante, liris transversis conspicuè aurantio-fuscis.*

THE WOODCOCK MUREX. Shell elongately club-shaped, smooth or transversely obsoletely striated and ridged, ridges distant; three-varicose, varices spinous, spines rather solid, somewhat distant, bent upwards; canal armed with six rows of spines, one row with the spines strong, very long, and horizontal, alternating with the other, having the spines minute and erect; whitish, transverse ridges conspicuously coloured with orange-brown.

DILLWYN, *Descriptive Catalogue of Shells*, vol. ii. p. 681,

Murex, no. 3.

Hab. Persian Gulf.

This species may be distinguished, amongst other characters, by the narrow transverse orange-brown bands.

Species 90. (Mus. Cuming.)

MUREX MESSORIUS. *Mur. testā claviformi, transversim tuberculatā et nodosā, interstitiis leviter corrugatis; trifariam varicosā, varicibus rotundis, tuberculato-liratis, spinis tribus acutissimis armatis, unā anticā brevi, duabus posticis longioribus curvatis; canali subelongato; olivaceā, rufo-fusco minutissimè et densissimè undatā; columellā labroque intus dentato-corrugatis.*

THE REAPING-HOOK MUREX. Shell club-shaped, transversely tuberculated and noded, interstices slightly wrinkled; three-varicose, varices round, tubercularly ridged, armed with three very sharp spines, one anterior, short, two posterior, longer, curved; canal rather elongated; olive, very minutely and thickly waved with reddish brown; columella and lip dentately wrinkled within.

SOWERBY, Pro. Zool. Soc., 1840; Conch. Illus. f. 93.

Hab. — ?

The painting and sculpture of this species approximates very closely to that of the *Murex chrysostoma*, except in the absence of the bright rufous-orange colour of the

columella. In form it is smaller, more erect, and angulated.

Species 91. (Mus. Cuming.)

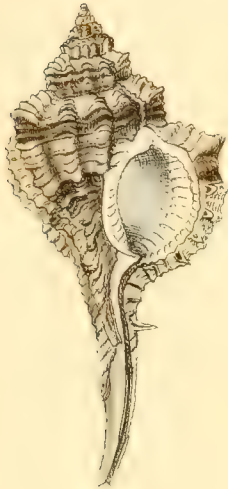
MUREX RECTIROSTRIS. *Mur. testā claviformi, spiræ suturis excavatis; transversim elevato-striatā, longitudinaliter noduloso-costatā; trifariam varicosā, varicibus rotundis, pone excavatis, spinā unicā, brevi, acutā, anticè armatis; canali elongato, recto; fuscescente, fusco maculato-fasciatā.*

THE STRAIGHT-BEAK MUREX. Shell club-shaped, sutures of the spire excavated, transversely elevately striated, longitudinally nodulously ribbed; three-varicose, varices round, excavated behind, armed anteriorly with a single short sharp spine; canal elongated, straight; pale brown, banded in a blotchy manner with darker brown.

SOWERBY, Pro. Zool. Soc., 1840.

Hab. Xipixapi, West Colombia (dredged from sandy mud at the depth of eleven fathoms); Cuming.

Well characterised by its straight erect growth, pale brown colouring, and other minor peculiarities.



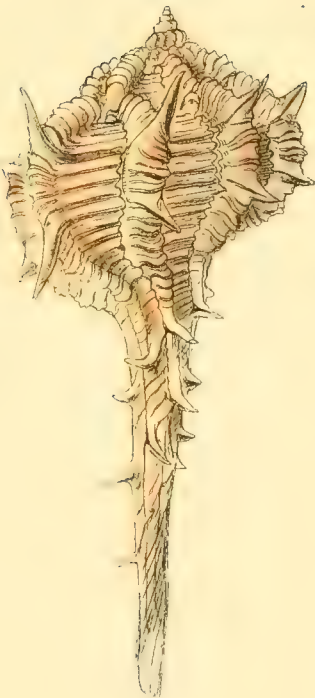
92.



93.



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94



96.

MUREX.

PLATE XXIII.

Species 92. (Mus. Cuming.)

MUREX NIGRESCENS. *Mur. testâ clavæformi, transversim liratâ, liris angustis, prominentibus, longitudinaliter nodoso-costatis; trifariam varicosâ, varicibus rotundis, solidis, nodiferis, spinis perpaucis minutis subobscuris infernè munitis; nigrescente-olivaceâ, fasciis duabus nigris pictâ; canali elongato.*

THE BLACKISH MUREX. Shell club-shaped, transversely ridged, ridges narrow, prominent, longitudinally nodosely ribbed; three-varicose, varices round, solid, nodiferous, with a very few rather obscure minute spines at the lower part; blackish-olive, painted with two black bands; canal elongated.

SOWERBY, Pro. Zool. Soc., 1840.

Hab. Xipixapi, West Columbia (found in sandy mud at the depth of eleven fathoms); Cuming.

This species, although closely approximating to the *Murex recurvirostris*, exhibits differences which may be recognised by careful comparison; it is more ventricose, and the spire more elevated.

Species 93. (Mus. Cuming.)

MUREX ADUNCO-SPINOSUS. *Mur. testâ clavæformi, transversim fortiter liratâ, longitudinaliter plicato-costatâ; trifariam varicosâ, varicibus rotundis, spinis fortibus breviusculis leviter aduncis, spinis minutis intervenientibus, armatis; lutescente-fuscâ; canali elongato, superne spinoso.*

THE HOOKED-SPINE MUREX. Shell club-shaped, transversely strongly ridged, longitudinally plicately ribbed; three-varicose, varices round, armed with rather short, strong, slightly hooked spines, with minute spines intervening; yellowish-brown; canal elongated, spinous at the upper part.

BECK; *Murex ternispina*, var., Sowerby, Conch. Illus. Cat., Murices, no. 2. f. 68.

Hab. Philippine Islands; Cuming.

The leading characteristic features of this shell are so peculiar and constant that I am induced to follow Dr. Beck in arranging it as a species distinct from the *Murex ternispina*. The spines are shorter, the ridges are much more strongly nodulous, and all the examples I have seen are of a certain brownish yellow colour.

Species 94. (Mus. Saul.)

MUREX TUMULOSUS. *Mur. testâ elongato-clavæformi, transversim subgranoso-liratâ et striatâ, spirâ depressâ, suturis profundè excavatis, subcavernosis, apice acuminato; septifariam varicosâ, varicibus rotundis, pone excavatis, tribus vel quaternis ultimis spinis squamæformibus duabus breviusculis divergentibus armatis; lutescente, aurantio-fusco hic illic tinctâ et maculatâ; canali longissimo, recto, spiraliter spinoso.*

THE TUMULOUS MUREX. Shell elongately club-shaped, transversely somewhat granosely ridged and striated, spire depressed, sutures deep, excavated, somewhat cavernous, apex acuminate; seven-varicose, varices round, excavated behind, the three or four last varices armed with a diverging pair of rather short scale-like spines; yellowish, stained and spotted here and there with orange-brown; canal very long, straight, spirally spinous.

SOWERBY, Pro. Zool. Soc., 1840.

Hab. —?

I quite agree with Mr. Sowerby in his estimation of this unique and valuable species; a hybrid, as it were, between the *Murices cornutus* and *brandaris*, but presenting an assemblage of peculiarities distinct from either.

M. Kiener asserts that this shell is merely a variety of the *Murex cornutus*, but I cannot see what right he has to question the validity of any of those species described in the "Proceedings of the Zoological Society," which he has never had an opportunity of seeing.

Species 95. (Mus. Cuming.)

MUREX HAUSTELLUM. *Mur. testâ elongato-clavæformi, transversim striatâ, longitudinaliter nodoso-plicatâ; tricaricosâ, varicibus rotundis, muticis; fusciscente, lineis spadiceis cingulatâ; varicibus maculis quadratis nigricante-fuscis ornatis, columellâ labroque rubentibus; canali longissimo, gracili, spinis squamæformibus brevibus perpaucis superne munito; aperturâ rotundato-ovatâ.*

THE SNIPE'S HEAD MUREX. Shell elongately club-shaped, transversely striated, longitudinally nodosely plicated; three-varicose, varices round, spineless; pale brown, encircled with rusty-brown lines, varices ornamented

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with square blackish-brown spots, lip and columella red; canal very long, slender, furnished at the upper part with a very few short scale-like spines; aperture rotundately ovate.

LINNÆUS, Syst. Nat., 12th edit., p. 1214.

Hab. Ceylon, Mauritius, &c.

This well-known species is found abundantly throughout the regions of the East. The magnificent specimen here figured was collected by Mr. Cuming at the Philippine Islands.

Species 96. (Mus. Taylor.)

MUREX BRANDARIS. *Mur. testā clavæformi, transversim subirregulariter lirata et striata; sexfariam varicosā, varicibus planulatis, nunc muticis et tuberculatis, nunc spinis squamæformibus duabus breviusculis divergentibus*

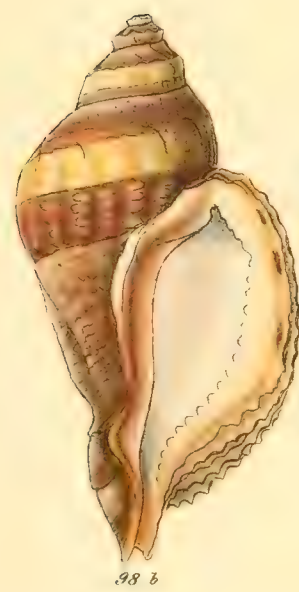
armatis; luteo-fuscescente, columellā et aperturæ fauce lutescentibus; columellā sæpe latissimè inflatā; canali subelongato.

THE STRAIT-SPINED MUREX. Shell club-shaped, transversely somewhat irregularly ridged and striated; six-varicose, varices flattened, spineless and tubercled, sometimes armed with two rather short diverging scale-like spines; yellowish-brown, columella and interior of the aperture yellowish; columella often very widely inflated; canal rather elongated.

LINNÆUS, Syst. Nat., 12th edit., p. 1214.

Hab. Mediterranean.

This well-known Mediterranean species, like its fellow-inhabitant the *Murex trunculus*, is extremely variable in its growth, examples being frequently seen without a single spine.



MUREX.

PLATE XXIV.

Species 97. (Mus. Cuming.)

MUREX SECUNDUS. *Mur. testā subpyriformi-ovatā, transversim liratā, scabrosā, spirā brevi, cavernosā; quinquefarīam varicosā, varice ultimo dilatato, planifrontoso, frondibus numerosis, confertis, canaliculatis; albā, nigricante-fusco tinctā; canali breviusculo, planulato.*

THE NEXT-ALLIED MUREX. Shell somewhat pyriformly ovate, transversely ridged, scabrous, spire short, cavernous; five-varicose, last varix dilated, flatly frondose, fronds numerous, close-set, canaliculated; white, stained with blackish brown; canal rather short, flattened.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 586.
Hab. Island of Masbate, Philippines (found on the sands); Cuming.

This is the "next-allied" species to the *Murex scorpio*; from which it differs in the spire not being deeply sutured, more like that of the *Murex rota*, and in the marginal varix having none of the large palmated fronds.

Species 98. (Fig. *a* and *b*, Mus. Cuming.)

MUREX SALEBROSUS. *Mur. testā elongato-ovatā, sub-Pyrulaformi, scabrosā, spirā interdum brevi, interdum elatā, angulato-turritā; sexfarīam varicosā, varicibus undato-laminatis, nonnullis sæpè obsoletis; anfractibus supernè plus minusve angulatis, ad angulum irregulariter obtusè nodosis; fuscescente, fusco fasciatā; aperturā subangustā, albā, columellā labroque aurantio-rubris, labro dentato; canali brevi.*

THE RUGGED MUREX. Shell elongately ovate, somewhat Pyrula-shaped, rough, spire sometimes short, sometimes elevated, angularly turreted; six-varicose, varices undulately laminated, some often obsolete; whorls more or less angulated at the upper part, irregularly obtusely noded at the angle; pale brown, banded with dark brown, aperture rather narrow, white, lip and columella orange-red, lip toothed; canal short.

KING, Zool. Journal, vol. v. p. 347.

SOWERBY, Conch. Illus., f. 48.

Murex vitulinus, var., Gray. Beechey's Voyage, p. 108. pl. 33. f. 4 and 6.

Hab. Panama (found under stones); Cuming.

I cannot agree with Mr. Gray in regarding this shell, of which numerous specimens are to be found, as a variety of the *Murex vitulinus*. It is of extremely variable growth, as the specimens selected for illustration show, but they all exhibit one uniform peculiarity of character.

Species 99. (Mus. Cuming.)

MUREX ELEGANS. *Mur. testā contorto-clavaformi, crassiusculā, transversim liratā, liris angustis, ad summitatem minutè granoso-funiculatis; trifariam varicosā, varicibus rotundis, hic illic obscure spinoso-plicatis; albā, funiculis transversis nitidè castaneo-fuscis; canali longiusculo, gracili, obliquè contorto.*

THE ELEGANT MUREX. Shell contortly club-shaped, rather thick, transversely ridged, ridges narrow, minutely granulously corded; three-varicose, varices round, here and there obscurely spinously plicated; white, transverse cords bright chesnut brown; canal rather long, slender, obliquely contorted.

BECK; Sowerby, Conch. Illus. Cat. Murices, no. 19. f. 84.

Hab. Island of St. Domingo, West Indies.

Easily distinguished by its peculiarly contorted growth, and the neat appearance of its entire surface being crossed by a series of equi-distant fine brown thread-like cords.

Species 100. (Mus. Brit.)

MUREX CALCAR. *Mur. testā trigono-fusiformi, transversim liratā, liris alternis majoribus, interstitiis, subscabrosis, costis nodoso-plicatis tribus longitudinalibus inter varices; trifariam varicosā, varicibus peculiariter fimbriato-laminatis, spinā longiusculā recurvā supernè armatis; albā, ferrugineo-fusco hic illic pallidè tinctā; canali mediocri.*

THE SPUR MUREX. Shell triangularly fusiform, transversely ridged, alternate ridges the larger, interstices somewhat scabrous; with three longitudinal nodosely plicated ribs between the varices; three-varicose, varices peculiarly fimbriately laminated, armed at the upper part with a rather long recurved spine; white, palely tinged here and there with rusty brown; canal middling.

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KIENER, Icon. Coq. vivantes, p. 107. pl. 36. f. 2.

Murex Senegalensis, var., Sowerby, Conch. Illus. f. 61.

Hab. — ?

This shell approximates very closely to the *Murex Senegalensis*, but I still think with M. Kiener that it may be distinguished as a species; the horn-like spines are longer, and they are webbed at the base with a delicate lamina, which in the *Murex Senegalensis* is folded down, as it were, upon the varix.

Species 101. (Mus. Cuming.)

MUREX SENEGALENSIS. *Mur. trigono-fusiformi, transversim lirata, liris numerosis confertis, interstitiis minutè scabrosis, tuberculis duobus grandibus inter varices;*

trifariam varicosâ, varicibus rotundis, spinâ breviusculâ recurvâ ad angulum armatis; livido-fuscâ; canali mediocri.

THE SENEGAL MUREX. Shell triangularly fusiform, transversely ridged, ridges numerous, close-set, interstices minutely scabrous, with two large tubercles between the varices; three-varicose, varices round, armed with a rather short recurved spine at the angle; livid brown; canal middling.

GMELIN, Syst. Nat., p. 3537.

Le Sirat, Adanson, Voy. en Sénégal, pl. 8. f. 19.

Hab. Senegal; Brazil.

Lamarck appears to have omitted mention of this species, and referred to Adanson's figure of it for the illustration of his *Murex anguliferis*.



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MUREX.

PLATE XXV.

Species 102. (Mus. Cuming.)

MUREX PURPURA. *Mur. testā ovato-oblongā, basem versus attenuatā, scabrā; septifariam vel octofariam varicosā, varicibus obtuso-nodosis; aurantio-lutescente, varicum partibus inferioribus nodisque nigricantibus; aperturā pyriformi-ovatā; labro intus denticulato.*

THE PURPURA MUREX. Shell ovately oblong, attenuated towards the base, rough; seven- or eight-varicose, varices obtusely nodose; orange-yellow, nodules and lower parts of the varices blackish; aperture pyriformly ovate; lip denticulated within.

CHEMNITZ, Conchylien Cab., vol. x. pl. 161. f. 1552-5.

Murex miliaris, Gmelin.

Murex vitulinus, Lamarck.

Hab. West Coast of Africa.

The entire surface of this shell is peculiarly rough and scabrous, and the varices are distinguished by their large blunt rounded nodules.

Species 103. (Mus. Cuming.)

MUREX TRILINEATUS. *Mur. testā abbreviato-fusiformi, utrinque attenuatā, solidiusculā, transversim regulariter liratā, longitudinaliter plicato-costatā; trifariam varicosā, varicibus rotundis, spinis brevissimis squamæformibus hic illic armatis; albā, filis castaneo-fuscis tribus distantibus transversim lineatā; aperturā rotundā, labro intus denticulato-striato; canali longiusculo, gracili, ascendente.*

THE TRILINEATED MUREX. Shell abbreviately fusiform, attenuated at both ends, rather solid, transversely regularly ridged; longitudinally plicately ribbed; three-varicose, varices round, armed here and there with very short scale-like spines; white, encircled with three distant chesnut-brown thread-like lines; aperture round, lip denticulately striated within, canal rather long, slender, ascending.

REEVE, Pro. Zool. Soc., 1845.

Hab. Gulf of Mexico.

A white shell, distinguished by three brown thread-like cords crossing it at rather distant intervals.

Species 104. (Mus. Metcalfe.)

MUREX CONCINNUS. *Mur. testā elongato-clavæformi, longi-*

tudinaliter subobsoletè plicato-costatā, transversim eximè liratā, litarum interstitiis minutissimè squamatis; trivaricosā, varicibus spinosis, spinis breviusculis gracilibus erectis acutis; pallidè fuscescente, filis castaneo-fuscis, quarum tribus saturatioribus, cingulatā; canali gracili, longissimo, recto, supernè spinoso.

THE NEAT MUREX. Shell elongately club-shaped, longitudinally rather obsoletely plicately ribbed, transversely delicately ridged, interstices between the ridges very minutely scaled; three-varicose, varices spinous, spines rather short, slender, erect, sharp; pale light brown, encircled with chesnut-brown thread-like lines, three of which are of deeper colour than the remainder; canal slender, very long, straight, spinous at the upper part.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

An extremely delicate and elegantly formed shell in which the coloured thread-like lines, as in the preceding species, of another form, are very characteristic.

Species 105. (Mus. Cuming.)

MUREX ROTA. *Mur. testā oblongo-ovatā, lævigatā aut obsoletè scabrosā, spirā brevi, cavernosā; septifariam varicosā, varicibus quaternis quinisque ultimis frondibus planis canaliculatis, ad apicem dilatatis et peculiariter palmatis, ornatis; nivedā; canali breviusculo.*

THE WATER-WHEEL MUREX. Shell oblong-ovate, smooth or obsoletely scabrous, spire short, cavernous; seven-varicose, last four or five varices ornamented with flat canaliculated fronds, dilated and peculiarly palmated at the summit; snowy white; canal rather short.

SOWERBY, Conch. Illus. Cat. Murices, no. 73. f. 119.

Hab. Molucca and Philippine Islands.

It is strange that this well-known species should not have been distinguished either by Lamarck or Deshayes. It differs from the *Murex scorpion* not only in having four or five of the varices handsomely palmated, but is of a different form; the body whorl being fuller and not separated from the penultimate whorl by so deep a suture; the canal moreover is shorter

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Species 106. (Mus. Cuming.)

MUREX SCORPIO. *Mur. testā elongato-ovatā, gracili, sub-fusiformi, spirā brevi, suturis profundis et latis; quinquefarīam varicosā; varice ultimo frondibus planis canaliculatis, ad apicem dilatatis et peculiariter palmatis, ornato; nigricante-fuscā, interdum albā; aperturā parvā; canali longiusculo, frondoso.*

THE SCORPION MUREX. Shell elongately ovate, slender, somewhat fusiform, spire short, sutures very deep and broad; five-varicose, last whorl ornamented with flat canaliculated fronds, dilated and peculiarly palmated at the summit; blackish-brown, sometimes white; aperture small; canal rather long, frondose.

LINNÆUS, Syst. Nat., 12th edit., p. 1215.

Hab. Molucca and Philippine Islands.

It cannot be denied that a very close affinity exists between this and the preceding species; but it may be asserted without hesitation, that the differences are positive and constant. In addition to those already enumerated, it may be observed, that the varices are always fewer in number, and the last two or three are entirely separated from the penultimate whorl by the deep wide suture.

Species 107. (Mus. Cuming.)

MUREX NODATUS. *Mur. testā abbreviato-fusiformi, subclavatā, utrinque attenuatā, longitudinaliter subplicatā, transversim liratā, liris nodiferis; trifariam varicosā, varicibus rotundis, spinis brevibus acutis armatis; luteo-fuscescente, lineis fuscis inter nodos cingulatā; canali longiusculo, gracili, obliquè ascendente.*

THE KNOTTED MUREX. Shell abbreviately fusiform, clavate, attenuated at both ends, longitudinally subplicated, transversely ridged, ridges nodiferous; three-varicose,

varices round, armed with sharp small spines; yellowish-brown, encircled between the nodules with brown lines; canal rather long, obliquely ascending.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

This shell was figured in the Conchological Illustrations by Mr. Sowerby, as a variety of the *Murex motacilla*, with which species he was probably not at the time acquainted, as it bears little or no affinity with it.

Species 108. (Mus. Saul.)

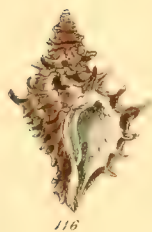
MUREX SIMILIS. *Mur. testā abbreviato-fusiformi, spirā subturritā, anfractibus supernè subangulatis, transversim obsoletè striatis, tuberculis tribus nodiferis inter varices; trifariam varicosā, varicibus spinis brevissimis acutis armatis; luteo-albicante, fasciis duabus aurantio-fuscescentibus latiusculis distantibus cingulatā; aperturā rotundato-ovatā, labro columellari subconspicuo; canali longiusculo, obliquè ascendente.*

THE SIMILAR MUREX. Shell abbreviately fusiform, spire somewhat turreted, whorls a little angulated at the upper part, transversely obsoletely striated, with three nodiferous tubercles between the varices; three-varicose, varices armed with very short sharp spines; yellowish white, encircled with two rather wide orange-brown bands; aperture rotundately ovate, columellar lip rather conspicuous; canal rather long, obliquely ascending.

SOWERBY, Pro. Zool. Soc., 1840.

Hab. — ?

This is a very excellent species, and perfectly distinct from the preceding, a comparison with which is recorded by Mr. Sowerby in the Pro. Zool. Soc., 1840, p. 140, under the impression of its being the *Murex motacilla*.



MUREX.

PLATE XXVI.

Species 109. (Mus. Belcher.)

MUREX GYRATUS. *Mur. testā fusiformi, costis transversis minutis, numerosis, eleganter crenatis, undique sculptā; spirā acuminato-turritā; anfractibus supernè depressis, medio carinatis, carinā prominente, plano-convexā, crenatā; albicante; canali subrecurvo.*

THE TURNED MUREX. Shell fusiform, sculptured throughout with numerous minute elegantly crenated transverse ribs; spire acuminately turreted; whorls depressed at the upper part, keeled round the middle, keel prominent, flatly convex, crenated; whitish; canal a little curved

Trophon gyratus, Hinds, Mollusca Voy. H. M. S. Sulphur, p. 14. pl. 1. f. 14, 15.

Hab. Straits of Macassar (found in course sand at the depth of seventeen fathoms); Cuming.

The entire surface of this shell is crossed with fine delicately crenulated ribs.

Species 110. (Mus. Cuming.)

MUREX BLAINVILLII. *Mur. testā subcylindraco-ovatā, transversim elevato-striatā; sexfariam vel septifariam varicosā, varicibus obscurè squamatis aut nodulosis; fuscā aut fusco-rubente, interdum albifasciatā, aperturæ fauce violascente; columellā basem versus leviter plicatā, labro intus noduloso; canali brevissimo.*

BLAINVILLE'S MUREX. Shell somewhat cylindrically ovate, transversely elevately striated; six- or seven-varicose, varices obscurely scaled or noded; brown or brownish-red, sometimes banded with white, interior of the aperture violet; columella slightly plaited towards the base, lip noded within; canal very short.

PAYRANDEAU, Cat. Moll. de la Corse, pl. 7. f. 17, 18.

Murex cristatus, var., Philippi.

Hab. Sicily.

It is true that this species presents merely a modified growth of the *Murex cristatus*, but that modification is of so marked a character that I have maintained Payrandeau's distinction.

Species 111. (Mus. Cuming.)

MUREX DIPSACUS. *Mur. testā fusiformi, spirā angulato-turritā, septifariam vel octofariam varicosā, varicibus frondosis, frondibus squamiformibus, brevibus, numerosis, varicum interstitiis, elevato-liratis, quasi cancellatis; albidā, fasciā unicā fusciscente indistinctè pictā; canali breviusculo.*

THE TEASLE MUREX. Shell fusiform, spire angularly turreted; seven- or eight-varicose, varices frondose, fronds scale-like, short, numerous, interstices between the varices elevately ridged, as if cancellated; whitish, indistinctly painted with a single light brown band; canal rather short.

BRODERIP, Pro. Zool. Soc., 1832. p. 194.

Hab. St. Elena, West Columbia (from a rocky bottom at the depth of twelve fathoms); Cuming.

A beautifully formed shell in which the sculpture is laid in most symmetrical order.

Species 112. (Mus. Cuming.)

MUREX CRISTATUS. *Mur. testā oblongo-ovatā, transversim liratā; anfractibus supernè subdepresso-angulatis, septifariam varicosis, varicibus squamosis, squamis prominentibus solidiusculis; albicante, roseo aut rubente tinctā; columellā basem versus leviter plicatā; labro intus noduloso; canali brevissimo.*

THE CRESTED MUREX. Shell oblong-ovate, transversely ridged; whorls somewhat depressly angulated at the upper part, seven-varicose, varices squamate, scales prominent, rather solid; whitish, stained with pink or red; columella slightly plicated towards the base; lip nodulous within; canal very short.

BROCCHI, Conch. Foss., p. 394. pl. 7. f. 15.

Hab. Sicily.

The main distinction between this species and the *Murex Blainvillii* consists in the upper portion of the whorls being more angularly turreted, and the fronds much more prominently developed.

Species 113. (Mus. Cuming.)

MUREX LEPIDUS. *Mur. testā oblongo-ovatā, transversim liratā, liris convexis, subirregularibus, confertis; octofariam varicosā, varicibus frondosis, frondibus brevibus confertis; albidā, frondibus nigricantibus; canali breviusculo.*

THE PRETTY MUREX. Shell oblong-ovate, transversely ridged, ridges convex, somewhat irregular, close-set; eight-varicose, varices frondose, fronds short, delicate, close-set; whitish, fronds blackish; canal rather short.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

August 1845.

The fronds are of a blackish-brown colour, whilst the remaining parts of the shell are pale greenish or blueish white.

Species 114. (Mus. Cuming.)

MUREX FESTIVUS. *Mur. testâ oblongo-fusiformi, crassiusculâ, transversim lineari-sulcatâ, interstitiis lirisque intervenientibus minutè granulatis; trivariicosâ, varicibus, incrassato-laminatis, recurvis, supernè cristatis; fulvescente, lineis fuscis subgeminis cingulatâ; aperturâ parvâ; canali breviusculo.*

THE FESTIVE MUREX. Shell oblong-fusiform, rather thick, transversely linearly-grooved, grooves and intervening ridges minutely granulated; three-varicose, varices forming a recurved thickened lamina, crested at the upper part; pale fulvous brown, encircled with fine brown thread-like lines; aperture small; canal rather short.

HINDS, Mollusca, Voy. H. M. S. Sulphur, p. 9. pl. 3. f. 13, 14.
Hab. Bay of Magdalena, California (dredged from a sandy floor at the depth of seven fathoms); Hinds.

This species may be easily known by the peculiarly recurved structure of the varices.

Species 115. (Mus. Saul.)

MUREX LAQUEATUS. *Mur. testâ trigono-ovatâ, utrinque attenuatâ, transversim undique costatâ, costis lævigatis, tuberculo magno inter varices; trivariicosâ, varicibus fimbriato-laminatis, quasi laqueatis; albâ, roseo tinctâ; aperturâ parvâ, canali breviusculo.*

THE CHANNELLED MUREX. Shell triangularly ovate, attenuated at both ends, transversely ribbed throughout, ribs smooth, with a large tubercle between the varices; three-varicose, varices fimbriately laminated, as if channelled; white, tinged with pink; aperture small, canal rather short.

SOWERBY, Pro. Zool. Soc., 1840.

Hab. — ?

The varices of this shell are composed of a regularly channelled frill to which I know of no similar structure in any other species. It has little or no affinity with the *Murex tripterus*.

Species 116. (Mus. Cuming.)

MUREX DUBIUS. *Mur. testâ oblongo-ovatâ, transversim subtiliter elevato-striatâ; anfractibus supernè angulatis, septifariam varicosis, varicibus squamatis, squamis solidiusculis, ad angulum grandibus prominentibus, infra gradatim minoribus; albidâ, nigricante-fusco variâ; labro intus noduloso, canali brevissimo.*

THE DOUBTFUL MUREX. Shell oblong-ovate, transversely finely elevately striated; whorls angulated at the upper part, seven-varicose, varices squamate, scales rather solid, large and prominent at the angle, gradually smaller beneath; whitish, variegated with blackish brown; lip nodulous within, canal very short.

SOWERBY, Conch. Illus., f. 23.

Murex aculeatus, Wood (not of Lamarck.)

Hab. Panama; Cuming.

An aberrant species of *Murex* scarcely coming within the generic limit of the group.

Species 117. (Mus. Cuming.)

MUREX LAMINIFERUS. *Mur. testâ ovatâ, spirâ angulato-turritâ; anfractibus ventricosis, supernè angulatis, octofariam varicosis, varicibus simplicibus laminatis, interstitiis costatis, quasi cancellatis; albicante, balteo angusto unico fusciscente supernè cingulatâ; canali brevi.*

THE LAMINIFEROUS MUREX. Shell ovate, spire angularly turreted; whorls ventricose, angulated round the upper part; eight-varicose, varices simple, laminated, interstices ribbed, as if cancellated; whitish, encircled round the upper part with a single narrow brown belt; canal short.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

The ventricose growth of this shell is a little peculiar.

Species 118. (Mus. Cuming.)

MUREX TETRAGONUS. *Mur. testâ subrotundato-ovatâ, spirâ interdum subpyramidalî; transversim costatâ, costis foraminatis, interstitiis confertim cancellatis; quadrifariam varicosâ, varicibus solidis, rotundatis, pone cavernosis; albâ; canali brevi, ascendente, peculiariter abruptè recurvo.*

THE QUADRANGULAR MUREX. Shell somewhat rotundately ovate, spire sometimes pyramidal; transversely ribbed, ribs pierced with holes, interstices closely cancellated; four-varicose, varices solid, rounded, cavernous behind; white; canal short, ascending, peculiarly abruptly curved back.

BRODERIP, Pro. Zool. Soc., 1832.

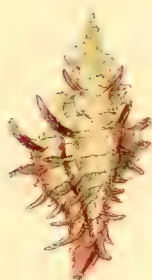
Eadem. *Murex breviculus*, Sowerby, Conch. Ill., f. 37.

Hab. — ?

I cannot discover any specific difference between the *Murices tetragonus* and *breviculus*; it is a species in which the growth is more pyramidal in some examples than in others, but the sculpture is invariable the same.



119



120 a



120 b



121



122



123



124

G. B. S. del et lith.

R. B. & R. imp

MUREX.

PLATE XXVII.

Species 119. (Mus. Belcher.)

MUREX HAMATUS. *Mur. testā ovatā, basem versus subatenuatā, anfractibus supernè angulatis, sexfariam varicosis, varicibus alatis, laciniis retrorsum hamatis, interstitiis transversim costatis, areis quadratis formantibus; pallidè luteo-fuscescente; labro dente parvo infernè munito; canali breviusculo.*

THE HOOKED MUREX. Shell ovate, somewhat attenuated towards the base, whorls angulated at the upper part, six-varicose, varices winged, lappets hooked backwards, interstices transversely ribbed, forming square areas; pale yellowish brown; lip furnished at the lower part with a small tooth; canal rather short.

HINDS, Mollusca Voy. H. M. S. Sulphur, p. 8. pl. 3. f. 11, 12.

Hab. Bay of Guayaquil (dredged from a muddy floor at the depth of twenty-one fathoms); Hinds.

An interesting new species bearing some distant affinity with the *Murex monoceros*.

Species 120. (Fig. *a* and *b*, Mus. Cuming.)

MUREX HEXAGONUS. *Mur. testā fusiformi-ovatā, hexagonā, anfractibus supernè subangulatis, sexfariam varicosis, varicibus spinis aculeiformibus armatis, varicum interstitiis transversim latis, areis concavis oblongo-quadratis formantibus; lutescente, spinis interdum roseo-purpurascens; canali subelongato.*

THE HEXAGONAL MUREX. Shell fusiformly ovate, six-sided, whorls slightly angulated at the upper part, six-varicose, varices armed with prickle-like spines, interstices between the varices transversely grooved, forming oblong-quadrate concave areas; yellowish, spines sometimes rose-purple; canal rather elongated.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 585.

Hab. Island of St. Thomas, West Indies.

In some examples of this excellently defined species the prickle-like spines are of a beautiful rose-purple colour.

Species 121. (Mus. Cuming.)

MUREX LINGUA-VERVECINA. *Mur. testā subpyriformi-ovatā, lævigatā, aut peculiariter scabrosā, infernè contractā, spirā brevi, acutā; anfractibus supernè depresso-cavernosis, trivarcosis, varicibus laminatis, varicum*

interstitiis obtuso-costatis, tuberculo magno rotundato; albā, nigricante-fusco sæpè tinctā et variegatā; canali breviusculo, attenuato.

THE SHEEP'S TONGUE MUREX. Shell somewhat pyriformly ovate, smooth, or peculiarly scabrous, contracted at the lower part; spire short, sharp; whorls depressly cavernous at the upper part, three-varicose, varices laminated, interstices between the varices obtusely ribbed, with a large rounded tubercle; white, often stained and variegated with blackish brown; canal rather short, attenuated.

CHEMNITZ, Conch. Cab. v. 10. pl. 161. f. 1540-1.

Le Japon, Adanson.

Murex gibbosus, Lamarck.

Murex lingua, Dillwyn.

Hab. Island of Goree, West Africa (dredged from sandy mud at a depth of about thirty fathoms); Belcher.

This is truly *Le Japon* of Adanson; the shell figured by Sowerby, under the corrupt name *Jatonus*, in the Conchological Illustrations, Fig. 60, is the *Murex hemitripteris*, a species perfectly distinct, as will be seen by the description following this, and the figure to which it refers.

I adopt Chemnitz's name for *Le Japon* in full, because I see no objection to the introduction of compound specific names when they involve one idea; and we have already several acknowledged precedents, ex. gr. *auris-Midæ*, *caput-serpentis*, *pellis-serpentis*, &c.

Species 122. (Mus. Saul.)

MUREX HEMITRIPTERUS. *Mur. testā trigono-pyriformi, basem versus gradatim attenuatā, crassiusculā, transversim obtuso-costatā, tuberculo magno inter varices, spirā brevi, angulato-turritā; anfractibus supernè angulato-depressis, trivarcosis, varicibus solidiusculis, obtuso-costatis; albidā, carneo-fuscescente variā; canali breviusculo.*

THE HEMITRIPTEROUS MUREX. Shell triangularly pyriform gradually attenuated towards the base, thick, transversely obtusely ribbed, with a large tubercle between the varices; spire short, angularly turreted; whorls angularly depressed at the upper part, three-varicose, varices rather solid, obtusely ribbed; whitish, variegated with flesh-tinted brown; canal rather short.

August 1845.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 579.

Murex gibbosus, young, Kiener.

Murex Jatonus, Sowerby (not *Le Jatou*, Adanson).

Hab. — ?

Mr. Sowerby and M. Kiener have greatly erred in confounding this with the preceding species; they are well distinguished by Lamarck, Deshayes, and also in the accompanying figures.

Species 123. (Mus. Saul).

MUREX MACROPTERON. *Mur. testā elongato-fusiformi, solidiusculā, transversim obsolete striatā, tuberculo prominente inter varices, spirā trigono-acuminato, trivari-cosā, varicibus alatis, ultimo latissimè plano-expanso, quadrilobato, superficie internā undato-scabrosā; cor-neo-fuscescente; aperturā ovatā, margine producto; canali longo, clauso.*

THE EXPANDED-WINGED MUREX. Shell elongately fusi-form, rather solid, transversely obsoletely striated, with a prominent tubercle between the varices, spire triangularly acuminate; three-varicose, varices winged, last varix very widely flatly expanded, four-lobed, inner surface undately scabrous; horny brown; aperture ovate, edge produced all round; canal long, closed.

DESHAYES, Guerin's Mag. de Zoologie, 1841. pl. 38.

Hab. — ?

This is certainly a most interesting and remarkable species; the example here figured from the collection of Miss Saul, is, I believe, the only one in this country.

For a more elaborate description I refer the reader to M. Deshayes's account of it, in his edition of Lamarck's Anim. sans vert. v. ix. p. 606-7.

Species 124. (Mus. Cuming.)

MUREX FISCELLUM. *Mur. testā ovato-oblongā, crassā, spirā breviusculā; anfractibus supernè subangulatis, octofariam varicosis, varicibus rotundatis incrassatis, costis striis longitudinalibus clathratis; albidā, viola-ceo-nigricante tinctā, aperturæ fauce vividè violaceā; canali brevi.*

THE LITTLE BASKET MUREX. Shell ovately oblong, thick, spire rather short; whorls somewhat angulated at the upper part; eight-varicose, varices rounded, thickened, close-set, transversely ribbed, ribs latticed with longitudinal striæ; whitish, stained with blackish-violet, interior of the aperture bright violet; canal short.

CHEMNITZ, Conch. Cab. v. x. pl. 160. f. 1524-5.

Hab. Island of Masbate, Philippines (found under stones at low water); Cuming.

The varices are so closely developed in this species as almost to fall one upon the other.



126



125



127



128



129a



129b



130

MUREX.

PLATE XXVIII.

Species 125. (Mus. Cuming.)

MUREX CARDUUS. *Mur. testā ovalā, utrinque acutè attenuatā, spirā mucronatā; anfractibus supernè angulatis, squamarum varicibus numerosis confertis ornatis, squamis supremis prominentibus erectis; albā; canali brevi, umbilicato.*

THE THISTLE MUREX. Shell ovate, sharply attenuated at both ends, spire pointed; whorls angulated at the upper part, ornamented with numerous close-set varices of scales, the uppermost of which are prominent and erect; white, canal short, umbilicated.

BRODERIP, Pro. Zool. Soc., 1832.

Hab. Pacasmayo, Coast of Peru (dredged from a coral reef twelve miles from shore at the depth of twenty-five fathoms); Cuming.

An interesting species, belonging to that section of the *Murices* which De Montford distinguished by the generic title of *Trophon*.

Species 126. (Mus. Cuming.)

MUREX FASCIATUS. *Mur. testā ovalā, crassā, transversim liratā, interstitiis subtilissimè granoso-striatis, tuberculo magno inter varices; trifuriam varicosā, varicibus convexis, solidiusculis, costatis; livido-fuscescente, obscure fasciatā; columellā callositate parvā supernè munitā; canali brevi, clauso.*

THE BANDED MUREX. Shell ovate, thick, transversely ridged, interstices very finely granosely striated, with a large tubercle between the varices; three-varicose, varices convex, rather solid, ribbed; livid brown, obscurely banded; columella furnished at the upper part with a small callosity; canal short, close.

SOWERBY, Pro. Zool. Soc., 1840; Conch. Illus. f. 86.

Hab. Mouth of the Gambia, west coast of Africa.

A solid Buccinum-like shell, of a dull livid brown colour.

Species 127. (Mus. Cuming.)

MUREX LUCULENTUS. *Mur. testā ovato-fusiformi, spirā angulato-turritā; anfractibus supernè angulatis, transversim costatis, lamellis fimbriatis frequentibus erectis longitudinaliter ornatis; lutescente, fusco tinctā et fasciatā; canali breviusculo, umbilicato.*

THE BEAUTIFUL MUREX. Shell ovately fusiform, spire angularly turreted; whorls angulated at the upper part, transversely ribbed, longitudinally ornamented with frequent erect fimbriated lamellæ; yellowish, stained and banded with brown; canal rather short, umbilicated.

Trophon fimbriatus, Hinds, Mollusca Voy. H. M. S. Sulphur, p. 14, pl. 1. f. 18, 19.

Hab. Straits of Macassar (found among sand and gravel at the depth of eleven fathoms); Hinds.

The growth of this shell is marked by a beautiful succession of erect laminæ, thrown up, as it were, one from under the other. The name *fimbriatus* is occupied by Lamarek in reference to a species of which we have no knowledge.

Species 128. (Mus. Cuming.)

MUREX HORRIDUS. *Mur. testā oblongo-ovalā, anfractibus supernè concavo-depressis, decemfuriam varicosis, varicibus rudibus simplicibus, interstitiis costis clathratis, areis elevato-striatis; albā, ferrugineo-fusco circa varices tinctā; canali brevi.*

THE ROUGH MUREX. Shell oblong-ovate, whorls concavely depressed round the upper part, ten-varicose, varices rude, simple, interstices latticed with ribs, the areas between which are sculptured with raised striæ; white, stained about the varices with pale rusty brown; canal short.

BRODERIP, Pro. Zool. Soc., 1832.

Fusus horridus, Sowerby, Conch. Illus., f. 29.

Murex Boivinii, Kiener.

Hab. St. Elena and Panamá (found in sandy mud at the depth of from eight to twelve fathoms); Cuming.

I regret extremely that M. Kiener should have been doubly unfortunate in his complimentary endeavours to record the name of M. Boivin, a distinguished amateur of Paris, whose courtesy and conchological zeal I have on more than one occasion experienced;—the *Murex Boivinii* is the *Murex horridus*, and the *Cypræa Boivinii* is a well-known variety of the *Cypræa gangrenosa*.

Species 129. (Fig. a and b, Mus. Cuming.)

MUREX NORRISII. *Mur. testā subpyriformi-ovalā, basem versus peculiariter attenuatā et recurvā, transversim conspicuè costatā et subtilissimè elevato-striatā, spirā*

breviusculā; anfractibus supernè paululum depressis, sexfariam varicosis, varicibus frondosis, frondibus gracilibus, elegantissimè muricato-ramosis; albā, frondibus medianis fuscis; aperturā parvā; canali longiusculo, ascendente.

NORRIS'S MUREX. Shell somewhat pyriformly ovate, peculiarly attenuated and curved back towards the base, transversely conspicuously ribbed and very finely elevately striated, spire rather short; whorls a little depressed at the upper part, six-varicose, varices frondose, fronds slender, very elegantly prickly branched; white, middle fronds brown; aperture small; canal rather long, ascending.

REEVE, Pro. Zool. Soc., 1845.

Hab. —?

I have much pleasure in dedicating this important species to Thomas Norris, Esq., in whose cabinet there is another equally characteristic specimen. The shell is most peculiarly attenuated and curved back towards the base, and the fronds are branched and ramified with remarkable sharpness and delicacy.

Species 130. (Mus. Belcher.)

MUREX CENTRIFUGA. *Mur. trigono-fusiformi, gracili, ba-*

sem versus attenuatā, spirā acuminatā; anfractibus supernè subangulatis, transversim creberrimè striatis, tuberculo unico, et in anfractu ultimo costis tribus quaternisve, inter varices; trivaricosā, varicibus subalatis, in spinis fortibus latiusculis compressis laciniatis, spinā supremā multo maximā, elongatā, rectā; corneo-fuscā; aperturā parvā; canali longiusculo, extremitate paululum obliquo-recurvo.

THE CENTRIFUGAL MUREX. Shell triangularly fusiform, slender, attenuated towards the base, spire acuminate, whorls slightly angulated at the base, transversely very closely striated, with a single tubercle, and in the last whorl three or four ribs, between the varices; three varicose, varices subwinged, lacinated into rather wide strong compressed spines, the uppermost of which is much the largest, elongated and straight; horny brown; aperture small; canal rather long, a little obliquely recurved at the extremity.

HINDS, Mollusca Voy. H. M. S. Sulphur, p. 8. pl. 3. f. 7, 8.

Hab. West coast of Veragua (dredged from a sandy floor at the depth of fifty-two fathoms); Hinds.

A species which may be easily recognised by the three horn-like protuberances with which each whorl is surmounted at the angle.



MUREX.

PLATE XXIX.

Species 131. (Mus. Cuming.)

MUREX NUCULA. *Mur. testā oblongo-ovatā, crassiusculā, serfariam varicosā, varicibus solidis, costatis, costis prominentibus, interstitiis cancellatis; albidā; aperturā ovatā, canali breviusculo, ascendente recurvo.*

THE LITTLE NUT MUREX. Shell oblong-ovate, rather thick, six-varicose, varices solid, ribbed, ribs prominent, interstices cancellated; whitish, aperture ovate, canal rather short, ascending, recurved.

REEVE, Pro. Zool. Soc., 1845.

Hab. Island of Capul, Philippines; Cuming.

Murex cyclostoma var, Sowerby.

Very intimately allied to the *Murex cyclostoma* but is of a more oblong form, and has a recurved ascending canal.

For Species 132 see Plate XXXIII; the shell here figured proving, upon further examination, to be a variety of the *Murex cristatus*.

Species 133. (Mus. Belcher.)

MUREX GRAVIDUS. Shell globosely fusiform, solid, transversely ribbed, ribs approximated, lamellated, a little divergent upon the varices; five-varicose, varices prominent, pierced with holes posteriorly; white, banded round the upper part with brown; aperture oval; canal rather long, a little ascending, recurved to the left.

HINDS, Mollusca Voy. H.M.S. Sulphur, p.9. pl.3. f.19, 20.

Hab. Cape Blanco, west coast of Africa (dredged from the depth of sixty fathoms); Hinds.

This interesting species may be known by its solid globose form, its close ribbed sculpture, and the sinistral prolongation of the canal.

Species 134. (Mus. Cuming.)

MUREX OCTOGONUS. *Mur. testā ovato-fusiformi, spirā acuminatā; anfractibus supernè concavo-depressis, octofariam vel nonafariam varicosis, varicibus aculeatis, aelueis eleganter recurvis, duobus basalibus valdè prominentibus, areis inter varices concavis, subtiliter liris; albidā aut fusciscente, liris undique castaneo-fuscis; aperturā subviolaceā.*

THE OCTANGULAR MUREX. Shell ovately fusiform, spire acuminate, whorls concavely depressed at the upper part; eight- or nine-varicose, varices prickly, prickles elegantly recurved, two very prominent on each varix at the base, the areas between the varices concave, finely ridged; whitish or pale brown, ridges throughout dark chesnut brown; aperture faintly tinged with violet.

QUOY and GAIMARD, Voy. de l'Astrolabe Zool. v.iii. p.521. pl.36. f.8, 9.

Murex Peruvianus, Sowerby.

Hab. Bay of Islands, New Zealand; Quoy and Gaimard. Pacasmayo, coast of Peru; Cuming.

An extremely pretty species, encircled throughout with fine dark brown ridges, which curl up upon the varices in the form of prickly spines.

Species 135. (Fig. 135. Mus. Saul; and Fig. 136. Mus. Cuming.)

MUREX BALTEATUS. *Mur. testā ovatā, subventricosā, anfractibus supernè leviter angulatis, infra angulum costatis, costis fortibus, subdistantibus, per summitatem obsoletè sulcatis; septifariam varicosā, varicibus frondosis, frondibus eximie ramosis, anticè squamis minutis peculiariter calamistratis; albā, rosaceo pulcherrimè tinctā, frondibus supernè aurantio-vel nigricante-rubentibus; aperturā parvā, productā; canali brevi, planulato, recurvo.*

THE BELTED MUREX. Shell ovate, rather ventricose, whorls slightly angulated at the upper part, ribbed below the angle, ribs strong, rather distant, obsoletely grooved along the top; seven-varicose, varices frondose, fronds delicately branched, peculiarly frizzled on the anterior side with minute scales; white, beautifully tinged with pink, fronds orange or blackish brown at the upper part; aperture small, produced; canal short, flattened, recurved.

BECK; Sowerby, Pro. Zool. Soc., 1840.

Hab. Island of Masbate, Philippines (found on the coral reefs); Cuming.

The name of "*balteatus*" was suggested for this beautiful species, Mr. Sowerby informs us, by Dr. Beck, but for what reason I am at a loss to imagine.

August 1845.

The curious frizzled sculpture on the anterior side of the varices is peculiarly worthy of remark.

For Species 136 see Plate XXXIII.

Species 137. (Mus. Cuming.)

MUREX PUDICUS. *Mur. testā oblongo-ovatā, solidiusculā medio ventricosā, utrinque attenuatā, transversim costatā, costis varices super minutissimè squamatis, lirā parvā interveniente; septifariam varicosā, varicibus solidis, leviter tuberculatis; intus extusque niveā; canali brevi.*

THE CHASTE MUREX. Shell oblong ovate, ventricose in the middle, attenuated at both ends, transversely ribbed, ribs very minutely scaled upon the varices, with a small ridge intervening; seven-varicose, varices solid, slightly tuberculated; snowy white within and without; canal short.

REEVE, Pro. Zool. Soc., 1845.

Hab. Island of St. Domingo.

A solid white shell, very much attenuated from the middle.

Species 138. (Mus. Belcher.)

MUREX CIRROSUS. *Mur. testā ovatā, ventricosā, spiræ suturis profundis; nonafariam varicosā, varicibus laciniis senis fistulosis recurvis ornatis, areis inter varices costatis, costis laciniis intercurrentibus; pallidè carneā, varicum laciniis albis; aperturā ovali; canali breviusculo, gracili, recurvo, dorso bifariam laciniato.*

THE CIRROUS MUREX. Shell ovate, ventricose, sutures of the spire deep; nine-varicose, varices ornamented with six recurved fistulous laciniae, areas between the varices ribbed, ribs running from the lacinia of one varix to that of the other; pale flesh-colour, laciniae of the varices white; aperture oval; canal rather short, slender, recurved, with two rows of laciniae at the back.

HINDS, Mollusca Voy. H. M. S. Sulphur, p. 9. pl. 3. f. 17, 18.

Hab. Straits of Macassar (found among sand and fine gravel at the depth of fifteen fathoms); Hinds.

Distinguished by the very beautiful curl-like lacinated structure of the varices.

Species 139. (Mus. Belcher.)

MUREX PERITUS. *Mur. testā subtrigono-ovatā, anfractibus supernè angulatis, transversim striatis; sexfariam varicosā, varicibus tenuibus, laciniatis, laciniis acuminatis, uncinatis, supremā præcipuè; varicum parte anticā inter lacinias crenatā; albidā, ferrugineo-fuscescente tinctā et fasciatā; canali subelongato, planato, recurvo.*

THE EXPERT MUREX. Shell somewhat triangularly ovate, whorls angulated at the upper part, transversely striated; six-varicose, varices thin, lacinated, laciniae acuminated, hooked, the uppermost especially; anterior part of the varices crenated between the laciniae; whitish, stained and banded with faint rusty brown; canal a little elongated, flattened, recurved.

HINDS, Mollusca, Voy. H. M. S. Sulphur, p. 9. pl. 3. f. 23, 24.

Hab. Bay of Magdalena, California (dredged from a sandy floor at the depth of seven fathoms); Hinds.

This species may be known by the curious hooked termination of the laciniae.

Species 140. (Mus. Cuming.)

MUREX VITTATUS. *Mur. testā subfusiformi-ovatā, transversim sulcatā, septifariam varicosā, varicibus latiusculis, solidis, approximatis, brevispinosis; albā, nigro tessellato-vittatā; canali breviusculo.*

THE FILLETED MUREX. Shell somewhat fusiformly ovate, transversely grooved, seven-varicose, varices rather broad, solid, approximated, armed with short spines; white, tessellately filleted with black; canal rather short.

BRODERIP, Pro. Zool. Soc., 1832.

Hab. Isle of Muerte, Bay of Guayaquil (from sandy mud at the depth of eleven fathoms); Cuming.

Easily to be recognised by the marked contrast of its painting.



141



142



143



144



145



145 b



146

MUREX.

PLATE XXX.

Species 141. (Mus. Cuming.)

MUREX CALIGINOSUS. *Mur. testā ovatā, spirā angulato-turritā, basem versus contractā, anfractibus supernè depresso-angulatis, transversim costatis, costis latis, planiusculis, subdistantibus; sexfariam varicosā, varicibus tenuibus, plicato-laminatis; sordidè fuscā, costis saturationioribus; canali breviusculo.*

THE OBSCURE MUREX. Shell ovate, spire angularly turreted, contracted towards the base; whorls depressly angulated round the upper part, transversely ribbed, ribs broad, rather flat, somewhat distant; six-varicose, varices thin, plicately laminated; dull brown, ribs of a darker colour; canal rather short.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

The varices of this shell resemble those of the *Murex falcatus*, though not lapped over at the edge as in that species; the ribs are very different, and more in the style of those of the *Murex torosus*.

Species 142. (Mus. Cuming.)

MUREX LAPPA. *Mur. testā ovatā, utrinque attenuatā, sexfariam varicosā, varicibus latis, incrassatis, solidis, approximatis, frondibus numerosis spinosis erectis armatis, varicibus utrinque fortiter costatis, costis sulcatis, minutissimè scabrosis; albā, rufo-fuscescente bifusciatim maculatā; aperturā parvā, productā, intus elevato-striatā.*

THE BUR MUREX. Shell ovate, attenuated at both ends, six-varicose, varices broad, thickened, solid, approximated, armed with numerous erect spinous fronds, varices strongly ribbed on both sides, ribs grooved, minutely scabrous; white, stained with two bands of pale reddish brown spots; aperture small, produced, elevately striated within.

BRODERIP, Pro. Zool. Soc., 1832.

Hab. St. Elena, West Columbia (found on a rocky bed at the depth of twelve fathoms); Cuming.

A stout shell with solid, sharp, prickly varices.

Species 143. (Mus. Cuming.)

MUREX LUGUBRIS. *Mur. testā ovatā, spirā breviusculā,*

transversim liratā et striatā; anfractibus supernè depressis, sexfariam varicosis, varicibus laciniatis, laciniis brevibus, recurvis; atro-purpureā, varicibus ferrugineo-fuscis; aperturā subamplā; canali brevi.

THE MOURNFUL MUREX. Shell ovate, spire rather short, transversely ridged and striated; whorls depressed at the upper part, six-varicose, varices lacinated, laciniæ short, recurved; blackish purple, varices rusty brown; aperture rather large; canal short.

BRODERIP, Pro. Zool. Soc., 1832.

Hab. Puerto Portrero, Central America (found in the coral rocks); Cuming.

The laciniæ in all but the last one or two varices are for the most part worn and blunted.

Species 144. (Mus. Cuming.)

MUREX CALIFORNICUS. *Mur. testā trigono-oblongā, subfusiformi, spirā angulato-turritā; anfractibus supernè angulato-depressis, tuberculo prominulo inter varices, transversim costatis, costis distantibus, interstitiis liris minutis pulcherrimè squamatis exsculptis; trifariam varicosā, varicibus laciniatis, laciniis subrecurvis; ferrugineo-fuscā; aperturā ovatā; canali brevi, clauso, recurvo.*

THE CALIFORNIAN MUREX. Shell triangularly oblong, slightly fusiform, spire angularly turreted; whorls angularly depressed at the upper part, with a rather prominent tubercle between the varices, transversely ribbed, ribs distant, engraved with minute very beautifully scaled ridges; three-varicose, varices lacinated, laciniæ a little recurved; rusty brown; aperture ovate, canal short, closed, recurved.

HINDS, Mollusca Voy., H. M.S. Sulphur, p.8. pl.3. f.9, 10.

Hab. California.

An interesting species with respect to form and sculpture, but of dull colour; the interstices between the cross ribs are scaled with extreme delicacy and beauty.

Species 145. (Mus. Cuming.)

MUREX BOREALIS. *Mur. testā subelongato-fusiformi, gracili, subpellucidā, transversim obsoletè liratā; septifariam varicosā, varicibus simplicibus, lamelliferis; intus*

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extusque niveâ, roseo pallidissimè tinctâ; aperturâ subamplâ.

THE NORTHERN MUREX. Shell somewhat elongately fusiform, slender, slightly transparent, transversely obsoletely ridged; seven-varicose, varices simple, laminiferous; snowy white within and without, very palely tinged with pink; aperture rather large.

REEVE, Pro. Zool. Soc., 1845.

Hab. Iceland.

An elegant semitransparent laminiferous shell partaking very much of the generic character of *Fusus*.

Species 146. (Mus. Cuming.)

MUREX CRASSILABRUM. *Mur. testâ ovatâ, spirâ brevi, acutâ, transversim fortiter costatâ, costis perpaucis,*

grandibus; multifariam varicosâ, varicibus simplicibus, laminiferis; intus extusque niveâ; labro peculiariter incrassato.

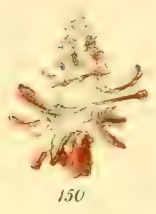
THE THICK-LIP MUREX. Shell ovate, spire short, acute, transversely strongly ribbed, ribs very few in number, large; many-varicose, varices simple, laminiferous, snowy white within and without; lip peculiarly thickened.

GRAY, MSS. British Museum.

Purpura crassilabrum, Sowerby.

Hab. Valparaiso (found in crevices of rocks at low water); Cuming.

Mr. Sowerby has questioned the propriety of placing this shell in the genus *Murex*, but I am inclined to think Mr. Gray is correct in so doing.



MUREX.

PLATE XXXI.

Species 147. (Mus. Belcher.)

MUREX MURICATUS. *Mur. testā ovato-fusiformi, anfractibus supernè depressis, squamarum compressarum horizontalium sericibus duabus spiraliter ornatis; albicante; aperturā subamplā; canali brevi.*

THE PRICKLY MUREX. Shell ovately fusiform, whorls depressed at the upper part, spirally adorned with two rows of compressed horizontal scales; whitish, aperture rather large: canal short.

Trophon muricatus, Hinds, Mollusca Voy. Sulphur, p. 14. pl. 1. f. 16, 17.

Hab. Panama (found in mud at the depth of about nineteen fathoms); Hinds.

Only one example of this singular species was found.

Species 148. (Mus. Belcher.)

MUREX RADICATUS. *Mur. testā ovatā, quinquefarariam varicosā, varicibus laciniatis, anticè abruptis, laciniis compressis, subquadratis, medio lineā duplicatis, posticè interstitiorum medio exsiliatis; aperturā parvā, productā; canali ferè clauso, ad basin leviter recurvo.*

THE ROOTED MUREX. Shell ovate, five-varicose, varices laciniated, anteriorly abrupt, laciniæ compressed, subquadrate, divided in the middle by a line, extending back on the posterior side to the middle of the interstices; aperture small, produced; canal almost closed, slightly recurved at the base.

HINDS, Mollusca Voy. Sulphur, p. 9. pl. 3. f. 21, 22.

Hab. San Blas, west coast of Mexico (found in mud at the depth of eleven fathoms).

Mr. Hinds describes the laciniæ of this species as taking root in a peculiar manner near the centre of the interstices.

Species 149. (Mus. Cuming.)

MUREX PLANILIRATUS. *Mur. testā oblongo-ovatā, transversim undique pulcherrimè liratā, liris angustis numerosis confertis, ad summitatem peculiariter planulatis; sexfarariam varicosā, varicibus plicatis; luteo-fuscescente; aperturā amplā.*

THE FLAT-RIDGED MUREX. Shell oblong-ovate, transversely very beautifully ridged throughout, ridges narrow, numerous, close-set, peculiarly flattened along the summit; six-varicose, varices plicated; yellowish brown; aperture large.

REEVE, Pro. Zool. Soc., 1845.

Hab. Swan River.

The entire surface of this beautiful little species is covered with very prominent close-set narrow ridges, which are peculiarly flattened along the summit.

Species 150. (Mus. Cuming.)

MUREX NODULIFERUS. *Mur. testā cylindraceo-ovatā, crassā, transversim elevato-striatā, spirā acuminatā; sexfarariam varicosā, varicibus noduloso-squamatis, anfractibus ultimi varicibus squamis duabus longissimis erectis; albā, squamis rubido-fuscis aut nigricantibus; canali brevissimo.*

THE NODULIFEROUS MUREX. Shell cylindrically ovate, thick, transversely elevately striated, spire acuminate; six-varicose, varices nodulously squamate, varices of the last whorl with the scales very long and erect; white, scales reddish-brown or blackish; canal very short.

SOWERBY, Pro. Zool. Soc., 1840.

Hab. Island of Masbate, Philippines (found on coral reefs); Cuming.

A remarkable species reminding one very forcibly of the *Pleurotoma auriculifera*.

Species 151. (Mus. Belcher.)

MUREX FOVEOLATUS. *Mur. testā fusiformi, crassā, transversim creberrimè sulcatā, anfractibus supernè subangulatis, laminis minimis longitudinalibus foveolatis; septifarariam varicosā, varicibus simplicibus, posticè rotundatis, anticè acutis; rubido-fuscā, atro-purpureo pallidè bifasciatā; labro externo intus obtusè dentato, columellari producto; canali breviusculo, subrecurvo.*

THE FURROWED MUREX. Shell fusiform, thick, transversely very closely grooved, whorls slightly angulated at the upper part, furrowed with very small longitudinal laminae; seven-varicose, varices simple, posteriorly rounded, anteriorly sharp: ruddy brown, with two blackish purple bands; outer lip obtusely denticulated within, columellar lip produced; canal rather short, a little recurved.

HINDS, Mollusca Voy. Sulphur, p. 9. pl. 3. f. 15, 16.

Hab. Bay of Magdalena, California (dredged from a sandy floor at the depth of seven fathoms); Hinds.

A shell of somewhat uncouth growth, though presenting good distinguishing characters.

Species 152. (Mus. Cuming.)

MUREX INERMIS. *Mur. testā eleganter fusiformi, semi-*

pellucidā, transversim obsolete liratā; anfractibus rotundatis, sexfariam varicosis, varicibus parvis, annuliformibus; niveā; aperturā rotundatā, labro columellari producto; canali subelongato, recurvo.

THE UNARMED MUREX. Shell elegantly fusiform, semi-transparent, transversely obsoletely ridged; whorls rounded, six-varicose, varices small, ring-like; snowy-white; aperture rounded, columellar lip produced; canal slightly elongated, recurved.

SOWERBY, Pro. Zool. Soc., 1840.

Hab. Japan; Dr. Siebald.

A delicately formed species in which the varices bear some resemblance to the rings of the *Scalaria pretiosa*.

Species 153. (Mus. Cuming.)

MUREX DECUSSATUS. *Mur. testā ovatā, basem versus contractā, spirā brevi, angulato-turritā; anfractibus superne angulatis, sexfariam varicosis, varicibus angustis, solidis, nodosis, subdistantibus, areis intermediis in anfractu ultimo costis duabus distantibus decussatis; violascente-albidā, varicum nodis atro-purpureis, aperturā fauce violascente; labro intus noduloso.*

THE CROSS-BARRED MUREX. Shell ovate, contracted towards the base, spire short, angularly turreted; whorls angulated at the upper part, six-varicose, varices narrow, solid, nodose, rather distant, intermediate areas on the last whorl cross-barred with two distant ribs; violet-tinged white, nodules of the varices jet-purple; interior of the aperture violet; lip noduled within.

Murex fiscellum var., Sowerby.

Hab. Island of Bohol, Philippines.

The cross-barred sculpture of this shell, dividing its surface into regular square compartments, distinguishes it from the *Murex fiscellum* to rank as a separate species. Several examples were collected by Mr. Cuming at the above Island without any particular variation in character.

Species 154 (Mus. Cuming.)

MUREX CYCLOSTOMA. *Mur. testā ovatā, gibbosā, spirā breviusculā; sex-varicosā, varicibus prominentibus, antice foraminatis et cancellatis, varicum interstitiis transversim costatis, costis pone varices fortioribus, divergentibus; livido-fuscescente, costis albicantibus; aperturā parvā, rotundā, margine producto.*

THE ROUND-MOUTH MUREX. Shell ovate, gibbous, spire rather short; six-varicose, varices prominent, anteriorly cancellated and pierced with holes, interstices between the varices transversely ribbed, ribs divergent and stronger behind the varices; livid-brown, ribs whitish; aperture small, round, edge produced.

SOWERBY, Pro. Zool. Soc., 1840.

Hab. Island of Bohol, Philippines.

The variety mentioned by Mr. Sowerby is a distinct species to which I have given the name of *Murex nucula*, Pl. XXIX. f. 131.

Species 155. (Mus. Cuming.)

MUREX INCISUS. *Mur. testā globoso-ovatā, crassā, spirā brevi, subobtusā; septifariam varicosā, varicibus rotundatis, incrassatis, approximatis, transversim carinato-costatis et striatis, costis striisque pulcherrimè squamato-crenulatis; albā, costis castaneis; aperturā parvā.*

THE CARVED MUREX. Shell globosely ovate, thick, spire short, rather obtuse; seven-varicose, varices rounded, thickened, approximated, transversely carinately ribbed and striated, ribs and striæ very beautifully squamately crenulated; white, ribs chesnut-brown; aperture small.

BRODERIP, Pro. Zool. Soc., 1832.

Hab. St. Elena, West Columbia (dredged from a rocky bottom at the depth of eight fathoms); Cuming.

A species well distinguished by the narrow crenulated keel-like ribs which cross the varices at regular and frequent intervals throughout.

Species 156. (Mus. Cuming.)

MUREX UNCINARIUS. *Mur. testā trigono-ovatā, subfusiformi, spirā subacuminatā, lævigatā, tuberculo fere obsolete inter varices; trifariam varicosā, varicibus squamā plano-compressā uncinatā superne armatis, infra plano-fimbriatis; fulvo-albicante; aperturā parvā; canali brevi, clauso.*

THE HOOKED MUREX. Shell triangularly ovate, somewhat fusiform, spire rather acuminate, smooth, with a nearly obsolete tubercle between the varices; three-varicose, varices armed at the upper part with a flatly compressed hooked scale, below flatly fimbriated; fulvous white; aperture small; canal short, closed.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 579.

Murices Capensis and *Mitriformis*, Sowerby.

Hab. Cape of Good Hope.

Lamarck referred in doubt to Martini's figure of the *Murex clavus* thinking, probably, that this was the young of that species; and hence arose the confusion of Martini's shell (*Murex clavus*) being taken for Lamarck's *Murex uncinarius*.

I ought, perhaps, to notice an error into which M. Deshayes has fallen in stating that this shell is a species of *Typhis*. The distinguishing character of that genus is the presence of an erect fistulous tube between the varices in place of a tubercle; of which there is no indication in the *Murex uncinarius*.



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159



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161



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165



166

MUREX.

PLATE XXXII.

(Specimens slightly magnified.)

Species 157. (Fig. 157 and 163, Mus. Cuming.)

MUREX ALVEATUS. *Mur. testā pyramidalī-oblongā, transversim costatā, costis angustis, peculiariter elevatis, utrinque minutissimè nodulosis, varicibus reticulatis, interstitiis alveatis; quadrifariam vel octofariam varicosā, varicibus pulcherrimè cancellatis, pone cavernosis; albidā; aperturā parvā; canali brevī.*

THE HOLLOWED MUREX. Shell pyramidally oblong, transversely ribbed, ribs narrow, peculiarly elevated, very minutely noduled along each side, reticulated with the varices, interstices hollowed; four- to eight-varicose, varices very beautifully cancellated, cavernous behind; whitish; aperture small, canal short.

KIENER, *Iconographie coq. viv.*, p. 24. pl. 46. f. 2.

Hab. Panama (found under stones at low water); Cuming.

A pretty deeply reticulated species, partaking somewhat of the characters of *Triton*.

Species 158. (Mus. Gruner, Bremen.)

MUREX PURPUROIDES. *Mur. testā ovatā, subventricosā, spirā brevī; anfractibus supernè subangulatis, costis parvis angustis longitudinalibus et transversis infra angulum reticulatis, costis transversis confertioribus; albicante, fasciā fuscescente interdum cingulatā; aperturā amplā, patulā.*

THE PURPURA-LIKE MUREX. Shell ovate, rather ventricose, spire short; whorls slightly angulated at the upper part, reticulated below the angle with small narrow transverse and longitudinal ribs of which the transverse are the closer together; whitish, sometimes encircled with a pale brown band; aperture large, wide open.

DUNKER, MSS. (Cassel).

Hab. Cape of Good Hope.

A small open-mouth shell, with no regular indication of varices.

Species 159. (Mus. Cuming.)

MUREX BADIUS. *Mur. testā obeso-fusiformi, solidiusculā, transversim elevato-striatā, striis conspicuis, regularibus; septifariam varicosā, varicibus incrassatis, subrotundis; rubido-castaneā; canali paululum recurvo.*

THE BROWN MUREX. Shell ovately fusiform, rather solid, transversely elevately striated, striae conspicuous, regular; seven-varicose, varices thickened, somewhat round; reddish chesnut; canal a little recurved.

REEVE, *Pro. Zool. Soc.*, 1845.

Hab. —?

A solid dark brown shell, certainly distinct from any species that I have seen.

Species 160. (Mus. Cuming.)

MUREX EROSUS. *Mur. testā pyramidalī-oblongā, transversim liratā, liris angustis, confertis, planiusculis, utrinque crenatis, interstitiis profundis; basi cavernoso-sulcatā, sulco septis duobus decussato; irregulariter varicosā, anfractu ultimo varicibus duobus fortibus, cæteris obsolete varicosis; cæruleo-nigricante, varicibus albican- tibus; aperturā minutā; canali brevī.*

THE ERODED MUREX. Shell pyramidally oblong, transversely ridged, ridges narrow, close-set, rather flattened, crenated on both sides, interstices deep; cavernously grooved at the base, groove crossed by two septa; irregularly varicose, two strong varices upon the last whorl, the rest obsoletely varicose; blueish black, varices white; aperture very small, canal short.

BRODERIP, *Pro. Zool. Soc.*, 1832.

Hab. Panama (found under stones); Cuming.

This is rather a questionable species of *Murex*, partaking so much as it does of the characters of *Triton*. It differs in its sculpture throughout from the *Murex alveatus*, but especially in being encircled with a deep broad cavernous groove at the base.

Species 161. (Mus. Cuming.)

MUREX DISTINCTUS. *Mur. testā fusiformi-turriculatā, transversim striatā aut exiliter liratā, spirā suturis subprofundis; anfractibus rotundatis, sexfariam varicosis, varicibus incrassatis, noduliferis; albidā aut flavescēte; aperturā parvā, rotundā; canali brevī, sub- ascendente.*

THE DIVIDED MUREX. Shell fusiformly turriculated, transversely striated or faintly ridged, sutures of the spire rather deep; whorls rounded, six-varicose, va-

August 1845.

rices thickened, noduliferous; white or yellowish; aperture small, round; canal short, slightly ascending.
DE CRISTOFORIS and JAN, Cat. rerum nat., pl. 11. f. 82.

Murex scalarinus, Bivon.

Murex Scalarioides, De Blainville.

Hab. Mediterranean. Palermo; Philippi.

Very closely approximating to the *Murex inermis* brought from Japan by Dr. Siebald, and which might be regarded as the eastern analogue of it.

Species 162. (Mus. Cuming.)

MUREX BÆTICUS. *Mur. testā fusiformi-ovatā, longitudinaliter tuberculato-costatā, transversim elevato-striatā; trivariicosā, varicibus eminentibus, muricato-nodosis; bæticiā, indistinctè fasciatā, aperturæ fauce subpurpurascente; labro intus dentato; canali brevi.*

THE SWARTHY MUREX. Shell fusiformly ovate, longitudinally tuberculously ribbed, transversely elevately striated; three-varicose, varices eminent, prickly nodose; dark brown, indistinctly banded, interior of the aperture tinged with purple; lip toothed within; canal short.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

The nodules of this interesting little dark brown shell are peculiarly prickly.

Species 164. (Mus. Cuming.)

MUREX INCONSPICUUS. *Mur. testā oblongo-ovatā, crassā, transversim creberrimè obtuso-liratā, longitudinaliter*

costatā, costis rudibus, incrassatis, varicibus indistinctis; sordidè fuscā; labro intus dentato; canali brevissimo.

THE INCONSPICUOUS MUREX. Shell oblong-ovate, thick, transversely very closely obtusely ridged, longitudinally ribbed, ribs rude, thickened, varices indistinct; dirty brown; lip toothed within; canal very short.

SOWERBY, Conch. Illus., f. 81 and 117.

Murex corallinus, Scacchi.

Fusus corallinus, Philippi.

Hab. English Channel, Jersey; Sowerby.

A small rude thickened species, some examples of which are much more elongated than others.

For Species 165 see Plate XXXIII; Fig. 165 proving to be the young of *Murex balteatus*.

Species 166. (Mus. Cuming.)

MUREX EXIGUUS. *Mur. testā ovatā, crassiusculā, transversim obtuso-liratā, quinquefariam varicosā, varicibus eminentibus, angilaciniatis, laciniiis interstitiisque cancellatis; albā; aperturā parvā, productā; canali brevi, recurvo.*

THE LITTLE MUREX. Shell ovate, rather thick, transversely obtusely ridged, five-varicose, varices eminent, narrow-laciniated, laciniae and interstices between them cancellated; white, aperture small, produced; canal short, recurved.

REEVE, Pro. Zool. Soc., 1845.

Hab. Saint Nicolas, Island of Zebu, Philippines; Cuming.

The laciniae of the varices of this species are peculiar in that they assume a narrow, almost fistulose, structure.



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156



163



165



167 a



167 b



168



169



171



170

MUREX.

PLATE XXXIII.

Species 132. (Mus. Saul.)

MUREX CANCELLATUS. *Mur. testā trigono-ovatā, spirā breviusculā, anfractibus transversim liris, litarum interstitiis peculiariter cancellatis; tricaricosā, varicibus compresso-fimbriatis, fronde clausā subfistulosā supernè ornatis; eburneā, aperturā parvā; canali clauso, basi aperto, uncinato-recurvo.*

THE CANCELLATED MUREX. Shell triangularly ovate, spire rather short, whorls transversely ridged, interstices between the ridges peculiarly cancellated; three-varicose, varices compressly fimbriated, ornamented at the top with a closed, fistulous-like frond; ivory-white; aperture small; canal closed, open at the base, curved back in a hooked manner.

SOWERBY, Pro. Zool. Soc., 1845.

Hab. —?

An extremely curious and characteristic species, in which a compressed fistulose-like frond is developed on the upper extremity of each varix, though not in any way analogous to the fistulose tube which rises from the area between the varices in the genus *Typhis*.

Species 136. (Mus. Cuming.)

MUREX MACULATUS. *Mur. testā ovatā, subpyramidalī, anfractibus brevibus, tuberculato-varicosis, varicibus interstitiisque subtiliter liris, litarum interstitiis quoque pulcherrimè fimbriato-cancellatis; albidā, maculā rubido-fuscā inter varices conspicuè tinctā, columellā et aperturā favee pallidè rosaceā; canali breviusculo, recurvo.*

THE SPOTTED MUREX. Shell ovate, somewhat pyramidal, whorls short, tubercularly varicose, varices and interstices finely ridged, ridges and their interstices also very beautifully cancellated; whitish, conspicuously stained between the varices with a reddish brown spot, columella and interior of the aperture tinged with pink; canal rather short, recurved.

REEVE, Pro. Zool. Soc., 1845.

Hab. —?

The whorls of this species are strongly tubercled by the varices which are very delicately cancellately ridged across.

Species 163. (Mus. Saul.)

MUREX RUSTICUS. *Mur. testā ovatā, spirā acuminato-turritā, anfractibus medio tumidis, transversim subobscurè*

liris, tuberculato-varicosis, varicibus frondosis, frondibus brevibus, interstitiis minutissimè squamatis; lutescente-albā, varicibus nigricante-fuscis; aperturā parvā, limbo producto; canali breviusculo.

THE RUSTIC MUREX. Shell ovate, spire acuminate-turreted, whorls swollen in the middle, transversely rather obscurely ridged, tubercularly varicose, varices frondose, fronds short, interstices minutely scaled; yellowish-white, varices dark brown; aperture small, lip produced; canal rather short.

REEVE, Pro. Zool. Soc., 1845.

Hab. —?

A rather solid shell with an elevated tubercled spire.

Species 165. (Fig. Kiener.)

MUREX POLYGONULUS. *Mur. testā ovatā, subsusiformi, ventricosā, transversè sulcatā et striatā, nonafariam varicosā, albā; anfractibus supernè angulatis, supra planulatis, ad angulum tuberculato-coronatis; spirā prominente.*

THE MANY-ANGLED MUREX. Shell ovate, somewhat fusiform, ventricose, transversely grooved and striated, nine-varicose, white; whorls angulated at the upper part, flat above, tubercularly coronated at the angle; spire prominent.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. ix. p. 594.

KIENER, Icon. Coq. viv. p. 75. pl. 41. f. 2.

Hab. —?

Knowing nothing of this species I have copied Kiener's figure, and Lamarck's description verbatim.

Species 167. (Fig. a and b, Mus. Cuming.)

MUREX TERRITUS. *Mur. testā trigono-ovatā, liris convexis subnodosis irregularibus confertis undique cingulatā, tuberculo unico inter varices; trifariam varicosā, varicibus peculiariter laminato-frondosis, frondibus erectis, lateraliter connexis; lutescente, livido-olivaceo hic illic saturatiore tinctā.*

THE TERRIFIED MUREX. Shell triangularly ovate, encircled throughout with close-set, slightly nodose, irregular convex ridges, with a single tubercle between the varices; three-varicose, varices peculiarly laminately frondose, fronds erect, connected and entangled together; yellowish, stained with livid orange, in patches here and there of a deeper colour.

October 1845.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

A decidedly new species, reminding one at first sight of the *Murex Sinensis*, but quite distinct on examination. The entire shell is encircled with very close-set convex ridges, each terminating on the varices in an erect frond, connected together at the side so as to form a continuous laminated frill extending from the suture to the base.

Species 168. (Mus. Norris.)

MUREX CROCATUS. *Mur. testā trigono-fusiformi, transversim liratā, liris parvis, granoso-squamatis, tuberculo inter varices; trivariicosā, varicibus frondosis, frondibus obtuso-ramosis; canali subelongato, frondoso; fuscescente, frondibus rubido-crocatīs.*

THE SAFFRON-TINGED MUREX. Shell triangularly fusiform, transversely ridged, ridges small, granosely squamate, with a tubercle between the varices; three-varicose, varices frondose, fronds obtusely branched; canal rather elongated, frondose; brownish, fronds reddish saffron colour.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

This might be regarded as a species of somewhat doubtful character, but after careful comparison I am unable to refer it to any hitherto described. The varices of fronds in the specimen before me, from the collection of Thomas Norris, Esq., which, with its operculum, is in excellent condition, are of a bright scarlet saffron colour.

Species 169. (Fig. Kiener.)

MUREX CARINIFERUS. *Mur. testā ovato-conicā, turbinatā; longitudinaliter costatā, transversim striatā; fulvescente; spirā acutā, spinis coronatā; anfractibus convexis, carinatis; striis sublamellosis, decurrentibus rugosis; aperturā albā; labro dextro sulcato, denticulato; canali brevi; columellā basi umbilicatā.*

THE KEELED MUREX. Shell ovately conical, turbinated, longitudinally ribbed, transversely striated; yellowish, spire sharp; with sublamellar, decurrent, wrinkled striæ; aperture white, right lip grooved, denticulated; canal short; columella umbilicated at the base.

KIENER, Icon. Coq. viv. p. 100. pl. 18. f. 2.

Fusus cariniferus, Sowerby, Conch. Illus., f. 58.

Hab. — ?

This shell is unknown to me, but, rather than omit the species, I have copied Kiener's figure and description.

Species 170. (Mus. Cuming.)

MUREX BUXEUS. *Mur. testā fusiformi-ovatā, anfractibus supernè subangulatis, multifariam unduloso-varicosis, varicibus obtusis liris, liris creberrimis minutè rugosis; aperturā patulā, canali brevi; lutescente-fuscā, zonulis lutescente-albidis numerosis cingulatā, columellā et aperturæ fauce niveā, prope marginem denticulatā.*

THE BOX-WOOD MUREX. Shell fusiformly ovate, whorls a little angulated round the upper part, multifariously varicose, varices waved, obtuse, transversely ridged, ridges very close-set, minutely wrinkled; aperture wide open, canal short; yellowish-brown, encircled with numerous small yellowish white zones; columella and interior of the aperture snowy white, denticulated near the margin.

BRODERIP, Pro. Zool. Soc., 1832.

Polia burea, Sowerby.

Hab. Iquiqui, Peru (found on a sandy bottom at the depth of eighteen fathoms); Cuming.

A most aberrant form of the genus.

Species 171. (Mus. Gruner, Bremen.)

MUREX PUDORICOLOR. *Mur. abbreviato-fusiformi, obliquè trigonā, transversim liratā, liris singulis tuberculis duobus basem versus evanidis inter varices, lineā minutā elevatā inter liras; trivariicosā, varicibus rotundatis, prominentibus, squamis frondibusque prototomis basem versus præcipuè pulcherrimè ornatis; eximie rubente.*

THE BLUSH-COLOURED MUREX. Shell abbreviately fusiform, obliquely triangular, transversely ridged, each ridge with two tubercles, fading towards the base of the shell, between the varices, and a minute elevated line between the ridges; three-varicose, varices rounded, prominent, beautifully ornamented with scales and, especially towards the base, with small sprouting fronds; bright delicate blush-red.

REEVE, Pro. Zool. Soc., 1845.

Hab. Island of St. Thomas, West Indies; Gruner.

To Mr. Gruner, of Bremen in Germany, my thanks are most justly due for the loan of this new and extremely interesting shell. It reached me just at the moment in which I was arranging my last two plates of Murices for the artist; and I take no little pleasure in recording, as a noble example of disinterestedness in the pursuit of science, the circumstance of his having forwarded it through the post, suspended at imminent risk from a letter, in order to be in time for insertion: an offering the more acceptable, because coming from a gentleman to whom I had not the honour of being personally known.



173



172



174



175



176 a



176 b



177



178



179



180

MUREX.

PLATE XXXIV.

Species 172. (Fig. Kiener.)

MUREX KIENERI. *Mur. testā parvā, elongatā, turriculatā, varicosā, transversim striatā, fulvā aut flavescēte; spirā acutā; anfractibus convexis; suturā profundā, flavo maculatā; labro dextro intus sulcato; canali subelongato, supra rotundato, angusto.*

KIENER'S MUREX. Shell small, elongated, turriculated, varicose, transversely striated, fulvous or yellowish; spire sharp; whorls convex; suture deep, spotted with yellow; right lip grooved within; canal rather elongated, rounded above, narrow.

Murex exiguus, Kiener (not of Broderip), Icon. Coq. viv., p. 97. pl. 46. f. 3.

Hab. —?

An interesting looking species with which I am unacquainted. The name *exiguus* being already occupied I have the pleasure of attaching M. Kiener's name to it.

Species 173. (Mus. Cuming.)

MUREX PLEUROTOMOIDES. *Mur. testā pyriformi-ovatā, anfractibus supernè depressis, transversim liratis et minutissimè crispato-squamatis, multifariam varicosis, varicibus muricato-squamatis; canali subelongato, patulo; columellā labroque intus dentatis, labro supernè sinuato; albidā aut flavicante.*

THE PLEUROTOMA-LIKE MUREX. Shell pyriformly ovate, whorls a little depressed at the upper part, transversely ridged and very minutely crisply scaled, multifariously varicose, varices prickly scaled; canal rather elongated, wide open; lip and columella toothed within, lip sinuated at the upper part.

REEVE, Pro. Zool. Soc., 1845.

Hab. —?

A small pyriform prickly shell having a sinus in the upper part of the lip after the manner of a *Pleurotoma*.

Species 174. (Mus. Cuming.)

MUREX PISTACIA. *Mur. testā ovatā, subfusiformi, solidiusculā, anfractibus rotundatis, sulco subobsoleto prope suturam cinctis, transversim crebriliratis, longitudinaliter subobliquè unduloso-varicosis, varicibus obtusis; castaneo-fuscescente, columellā et aperturæ fauce subrosaceis; canali brevi.*

THE PISTACHIO-NUT MUREX. Shell ovate, somewhat fusiform, rather solid; whorls rounded, encircled with a rather obsolete groove near the suture, transversely closely ridged, longitudinally a little obliquely varicose, varices waved obtuse; light chesnut-brown, columella and interior of the aperture faintly tinged with pink; canal short.

REEVE, Pro. Zool. Soc., 1845.

Hab. —?

A true and well-defined species which has not been hitherto noticed.

Species 175. (Mus. Cuming.)

MUREX VIBEX. *Mur. testā ovato-fusiformi, turritā, transversim liratis, lirarum interstitiis concavo-sulcatis; septifariam varicosā, varicibus rotundatis, prominentibus, subnodosis; columellā subindistinctè plicatā; canali brevissimo; labro crenulato, intus radiatim sulcato; albā, ferrugineo-fusco tinctā, epidermide fuscā, rugosā.*

THE STRIPE-MARKED MUREX. Shell ovately fusiform, turreted, transversely ridged, interstices between the ridges, concavely grooved; seven-varicose, varices rounded, prominent, subnodose, columella somewhat indistinctly plaited; canal very short; lip crenulated, radiately grooved within; white, stained with rusty brown, epidermis brown, rough.

BRODERIP, Pro. Zool. Soc., 1832.

Hab. St. Elena and Panama (found in sandy mud at a depth of from six to twelve fathoms); Cuming.

An aberrant species which might be referred with equal propriety to *Turbinellus*.

Species 176. (Fig. *a* and *b*, Mus. Crotch.)

MUREX EURYPTERON. *Mur. testā ovato-oblongā, basem versus contractā, spirā breviusculā, acuminato-turritā, suturis subexcavatis; anfractibus supernè depressis, transversim obscure obtuso-liratis et punctato-striatis, tuberculo superficiali inter varices; trivaricosā, varicibus tenuibus, erecto-alatis, ultimo latissimè expanso, supernè falcato-recurvo; aperturā parvā ovatā; canali breviusculo.*

THE WIDE-WING MUREX. Shell ovately oblong, contracted towards the base, spire rather short, acuminately tur-

reted, sutures slightly excavated; whorls depressed at the upper part, encircled with obscure transverse obtuse ridges and punctured striæ, with a superficial tubercle between the varices; three-varicose, varices thin, erectly winged, the last very widely expanded and falcately recurved at the upper part; aperture small; canal rather short.

REEVE, *Pro. Zool. Soc.*, 1845.

Hab. Japan?

For this new and extraordinary shell I am indebted to the kindness of the Rev. W. R. Crotch, whose manuscript name *eurypteron*, (from *εὖρος*, widely extended, and *πτερον*, wing), I feel great pleasure in adopting as being peculiarly expressive of its remarkable alate growth. It approaches nearest to the *Murex falcatus*, but in that species there are five varices on a whorl, whilst in this there are but three, and the winged expansions of the *Murex falcatus* are folded over at the superior margin. The specimen here figured, and which is I believe unique, was received from Holland, and is supposed to have come from Japan.

Species 177. (Fig. Kiener.)

MUREX ZELANDICUS. *Mur. testâ globosâ, antèrius ventricosâ, subfragili; albidâ; longitrorsum quinquies spinosâ, transversim leviter sulcatâ, spinis ultimis anfractibus longioribus, recurvatis; spirâ longâ, acutâ; aperturâ ovali et albâ; canali brevi, contorto, squamoso.*

THE NEW ZEALAND MUREX. Shell globose, ventricose anteriorly, somewhat fragile; whitish, armed longitudinally with five varices of spines, transversely slightly grooved, the last spines of the whorl longer, recurved; spire long, sharp; aperture oval, white; canal short, twisted, squamose.

QUOY and GAIMARD, *Zool. Voyage de l'Astrolabe*, vol. iii. p. 529. pl. 36. f. 5-7.

Hab. Cook's Straits, New Zealand.

As I have not had the pleasure of seeing this interesting species I am unable to give an original figure or description. There is, I believe, a small specimen of it in this country figured some years since by Mr. Sowerby, in his 'Conchological Illustrations,' but he cannot recollect in whose possession it is.

Species 178. (Mus. Cuming.)

MUREX MARGARITICOLA. *Mur. testâ ovatâ, squamarum liris angustis undique cinctâ, anfractibus supernè leviter angulatis, multifariam varicosis, varicibus obtuso-rotundatis ad angulum compresso-nodosis; albâ, squama-*

rum liris purpureo-nigricantibus, aperturâ fauce violaceâ, prope marginem dentatâ; canali brevi.

THE PEARL-SHELL-INHABITING MUREX. Shell ovate, encircled throughout with narrow ridges of scales, whorls slightly angled at the upper part, multifariously varicose, varices obtusely rounded, compressly nodose at the angle; white, ridges purple-black, interior of the aperture violet, toothed near the margin; canal short.

BRODERIP, *Pro. Zool. Soc.*, 1832.

Hab. Lord Hood's Island, Pacific Ocean (found adhering to the *Meleagrina margaritifera*).

A shell of very interesting sculpture, consisting of a succession of narrow purple-black ridges of fine scales upon a white ground.

Species 179. (Mus. Cuming.)

MUREX EDWARDSII. *Mur. testâ ovatâ, crassiusculâ, transversim irregulariter crebriliratâ, longitudinaliter plicato-tuberculatâ, varicibus interdum duobus vel tribus, interdum nullis; viridi-fuscâ, aperturâ fauce violaceâ, prope marginem dentatâ; canali brevi.*

EDWARDS' MUREX. Shell ovate, rather thick, transversely irregularly closely ridged, longitudinally plicately tubercled, sometimes two or three varices, sometimes none; greenish-brown, interior of the aperture violet, toothed near the margin; canal short.

MENKE, *Syn.* p. 65; Philippi, *Enum. Moll. Sicil.* p. 210. *Purpura Edwardsii*, Payrandeau.

Purpura Lasseignei, Basterot.

Hab. Mediterranean.

The varices are so irregular in their appearance that the generic character of the species appears to oscillate between that of *Murex* and *Purpura*.

Species 180. (Mus. Norris.)

MUREX TOROSUS. *Mur. testâ globoso-ovatâ, ventricosâ, costis grandibus tumulosis, interstitiis profundè excavatis, lirâ squamatâ percurrente, cingulatâ; varicibus tribus aut pluribus, obtusis; fuscâ; spirâ brevissimâ.*

THE LUSTY MUREX. Shell globosely ovate, ventricose, encircled with large tumulous ribs, the interstices between which are deeply hollowed, with a squamate ridge running along; varices three or more in number, obtuse; brown; spire very short.

LAMARCK, *Anim. sans vert.* (Deshayes' edit.) vol. ix. p. 598. *Hab.* —?

A very unsatisfactory species having much the appearance of a monstrous variety of the *Murex erinaceus*.



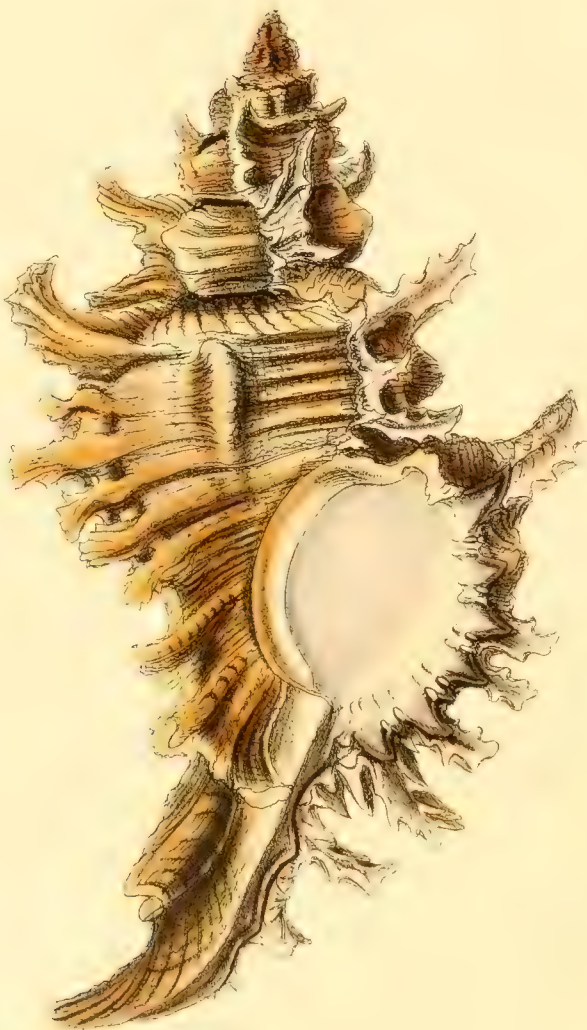
181.



182. a



182. b



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PLATE XXXV.

Species 181. (Mus. Cuming.)

MUREX NUX. *Mur. testâ abbreviato-ovatâ, crassiusculâ, transversim obsolete striatâ, basi umbilicatâ, spirâ brevi, acuminatâ; septifariam varicosâ, varicibus crassis, solidis, supernè subnodosis, canali brevissimo; intus extusque albâ.*

THE NUT MUREX. Shell abbreviately ovate, rather thick, transversely obsoletely striated, umbilicated at the base, spire short, acuminate; seven-varicose, varices thick, solid, slightly nodose at the upper part, canal rather short, white within and without.

REEVE, Pro. Zool. Soc., 1847.

Hab. — ?

A short gibbous shell with very stout obtuse varices.

Species 182. (Mus. Cuming.)

MUREX AFFINIS. *Mur. testâ fusiformi, transversim pulcherrimè crebriliratâ, liris subtiliter scabrosis, tuberculis duobus approximatis, quorum uno subobsoleto, inter varices; trivariicosâ, varicibus frondosis, frondibus brevibus subobtusis; fusciscente, liris castaneis, apice frondibusque rosaceis.*

THE ALLIED MUREX. Shell fusiform, transversely very beautifully closely ridged, ridges finely scabrous, with two tubercles, one of which is somewhat obsolete, between the varices; three-varicose, varices frondose, fronds short and rather obtuse; light brown, ridges chesnut, apex and fronds pink.

REEVE, Pro. Zool. Soc., 1845.

Hab. — ?

This species might easily be taken for a young *Murex palma-rosæ* of stunted growth, or a variety of the *Murex maurus*; it will, however, be found on examination to be distinct from both; and its peculiarities of character are perfectly uniform in several specimens that have come under my notice.

Species 183. (Mus. Cuming.)

MUREX PURPURATUS. *Mur. testâ ovato-fusiformi, subdistortâ, liris obtusis lineisque elevatis cingulatâ, tuberculo prominulo inter varices; trivariicosâ, varicibus frondosis, frondibus brevibus, submuricatis, labro intus conspicuè denticulato, denticulis binis; fusco-albicante, castaneo-fusco hic illic tinctâ, margine labri collumellaris rufescente, labri externi limbo vividè purpureo-violaceo.*

THE PURPLE-STAINED MUREX. Shell ovately fusiform, rather distorted, encircled with raised lines and obtuse ridges, with a rather prominent tubercle between

the varices; three-varicose, varices frondose, fronds short, slightly muricated, lip conspicuously toothed within, teeth ranged two and two; brownish white, stained here and there with chesnut brown, edge of columellar lip reddish, edge of the outer lip deep purple violet.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

I have not described this shell without some hesitation, because there is a glimpse of some affinity with the *Murex calcitrapa* in it. It, nevertheless, exhibits a great peculiarity of form and colouring, and though I have carefully compared it with many different examples of that species, I cannot identify it with satisfaction.

Species 184. Mus. Cuming.)

MUREX SQUAMULOSUS. *Mur. testâ Pyrulaformi, anfractibus supernè planulatis, longitudinaliter plicato-costatis, costis liris elevatis transversis, alternatim majoribus, pulcherrimè fornicato-squamatis, clathratis, canali longiusculo; pellucidè rosaceo-albâ.*

THE SQUAMULOUS MUREX. Shell Pyrula-shaped, whorls flattened round the upper part, longitudinally plicately ribbed, ribs latticed with raised ridges, alternately larger, beautifully ornamented with vaulted scales; canal rather long; transparent pink white.

Fusus squamulosus, Philippi, Enum. Moll. Sicil. vol. i. p. 204. pl. xi. f. 31.

Hab. Mediterranean.

This is one of those abnormal species of the genus which might with equal propriety be referred to *Fusus*. The squamiferous sculpture of the transverse ridges, which are alternately larger and smaller, is extremely delicate and beautiful.

Species 185. (Mus. Cuming.)

MUREX CLATHRATUS. *Mur. testâ subfusiformi-ovatâ, basi umbilicatâ, anfractibus rotundatis, longitudinaliter crebricostatis, costis crassiusculis, liris angustis squamigeris conspicuè clathratis, canali subrecurvo; albâ, apice pallidè rosaceo.*

THE LATTICED MUREX. Shell somewhat fusiformly ovate, umbilicated at the base, whorls rounded, longitudinally closely ribbed, ribs rather thick, conspicuously latticed with narrow squamiferous ridges, canal a little recurved; white, apex pale pink.

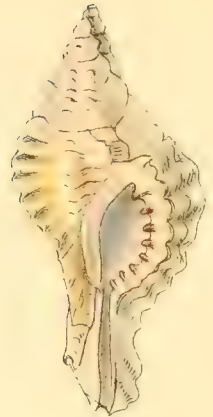
REEVE Pro. Zool. Soc., 1846.

Hab. — ?

Well characterized by its rounded whorls, and the sharp elevated squamiferous structure of the transverse ridges.



186 a



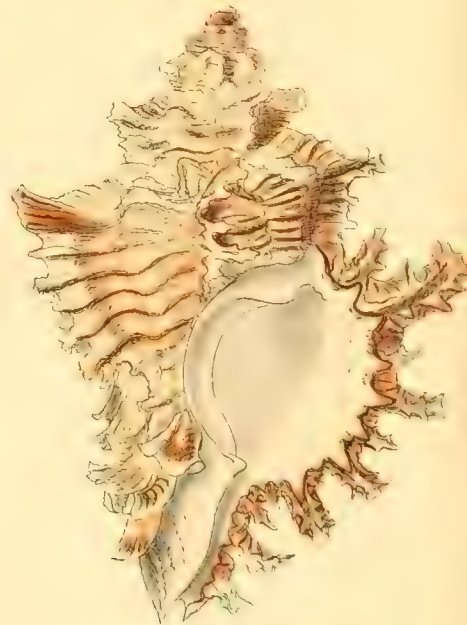
186 b



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PLATE XXXVI.

Species 186. (Mus. Cuming.)

MUREX RUBRIDENTATUS. *Mur. testā trigono-fusiformi, transversim obtuso-liratā, tuberculis duobus approximatis inter varices; trivariicosā, varicibus undulato-laminatis, erectis, e apice obliquè fluentibus, aperturā parvā, labro intus conspicuè dentato; lacteā, aurantio-fusco hic illic sparsim tinctā, dentibus rubris.*

THE RED-TOOTHED MUREX. Shell triangularly fusiform, transversely obtusely ridged, with two approximating tubercles between the varices; three-varicose, varices undulately laminated, erect, flowing obliquely from the apex, aperture small, lip conspicuously toothed within; cream-coloured, sparingly stained here and there with orange-brown, teeth red.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

A truly interesting species, quite distinct from any hitherto described. It is of a triangular fusiform structure, and each varix consists of an erect plaited lamina flowing obliquely from the apex. The inner side of the lip is strongly toothed, and the teeth being tipped with red upon a milk-white ground have a very chaste and characteristic appearance. Mr. Cuming possesses two examples of this species, both in equally fine condition.

Species 187. (Mus. Cuming.)

MUREX SPECTRUM. *Mur. testā erecto-fusiformi, transversim liratā, liris irregularibus, nodosis et tuberculatis, spiræ suturis subexcavatis; trivariicosā, varicibus incrassatis, frondosis, frondibus subelongatis, ramosis et muricatis, canali longiusculo; lutescente, frondibus lirisque castaneo-fuscis.*

THE SPECTRE MUREX. Shell erectly fusiform, transversely ridged, ridges irregular, nodose and tuberculated, sutures of the spire rather excavated; three-varicose, varices thickened, frondose, fronds rather elongated, branched and muricated, canal rather long; yellowish, fronds and ridges chesnut-brown.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

This new and somewhat remarkable species approximates to the *Murex palma-rosæ* in form, though perfectly distinct throughout in its various details of character. Mr. Cuming possesses no information as to its locality, and has not heard of any other specimen.

Species 188. (Mus. Cuming.)

MUREX FLORIFER. *Mur. testā trigono-ovatā, subfusiformi, transversim liratā, liris subdistantibus, interstitiis subtilissimè funicularis, funiculis frondes super scabrosis, tuberculo grandi elongato inter varices; trivariicosā, varicibus pulcherrimè frondosis, frondibus erectis, floriferis, muricatis; albicante, ferrugineo-fusco plus minusve tinctā, frondibus saturatoribus, extremitatibus muricatis intus extusque albis, apice rosaceo.*

THE FLOWER-BEARING MUREX. Shell triangularly ovate, somewhat fusiform, transversely ridged, ridges rather distant, interstices very finely corded, cords scabrous over the back of the fronds, with a large elongated tubercle between the varices; three-varicose, varices very beautifully frondose, fronds erect, floriferous, muricated; whitish, more or less stained with rusty brown, fronds darker brown, muricated extremities of the fronds white within and without, apex pink.

REEVE, Pro. Zool. Soc. 1846.

Hab. Honduras.

A fine new species approximating in general appearance to the *Murex rufus*, from which it may easily be distinguished by the forcible character of the ribs and tubercles, by its white ground colour and pink apex, and the striking effect which is produced by the white-tipped extremities of the fronds.

Species 24. (Mus. White).

MUREX MEGACERUS.—A specimen from the collection of H. H. White, Esq., illustrating a peculiar state of this species (for the normal form of which see Plate VI.), in which the fronds are of a short stunted growth, and the body of the shell particularly stout and gibbous.

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[Temporary Index.]

	Plate.	Species.		Plate.	Species.
acanthopterus, <i>Lamarck</i>	XVI.	64	digitatus, <i>Sowerby</i>	XII.	46
aculeatus, <i>Lamarck</i>	XV.	60	dipsacus, <i>Broderip</i>	XXVI.	111
<i>aculeatus</i> , Wood	XXVI.	116	distinctus, <i>Cristoforis</i>	XXXII.	161
adunco-spinosus, <i>Beck</i>	XXIII.	93	dubius, <i>Sowerby</i>	XXVI.	116
<i>aduncus</i> , Sowerby	XVI.	61	<i>ducalis</i> , Broderip	XIV.	56
adustus, <i>Lamarck</i>	VIII.	29	Edwardsii, <i>Menke</i>	XXXIV.	179
atlinis, <i>Reeve</i>	XXXV.	182	elegans, <i>Beck</i>	XXIV.	99
alabaster, <i>Reeve</i>	X.	39	elongatus, <i>Lamarck</i>	VI.	26
<i>alveatus</i> , Kiener	XXXII.	157	emarginatus, <i>Sowerby</i>	I.	1
ambiguus, <i>Reeve</i>	XIII.	51	eudivia, <i>Lamarck</i>	VII.	27
angularis, <i>Lamarck</i>	I.	5	erinaceus, <i>Linnaeus</i>	III.	11
anguliferus, <i>Lamarck</i>	XI.	48	erosus, <i>Broderip</i>	XXXII.	160
<i>arana</i> , Blainville	V.	21	<i>erystoma</i> , Swainson	II.	8
<i>asprinus</i> , Lamarck	IX.	35	<i>erythrostoma</i> , Swainson	XI.	44
axicornis, <i>Lamarck</i>	X. & XV.	37	eurypteron, <i>Reeve</i>	XXXIV.	176
badius, <i>Reeve</i>	XXXII.	159	<i>exiguus</i> , Kiener	XXXIV.	172
barticus, <i>Reeve</i>	XXXII.	162	falcatus, <i>Sowerby</i>	XVI.	61
balteatus, <i>Beck</i>	XXIX.	135	fasciatus, <i>Sowerby</i>	XXVIII.	126
Banksii, <i>Sowerby</i>	X.	38	fenestratus, <i>Chemnitz</i>	XV.	58
bellus, <i>Reeve</i>	XXI.	84	<i>ferrugo</i> , Wood	XI.	44
bicolor, <i>Valenciennes</i>	XI.	44	festivus, <i>Hinds</i>	XXVI.	114
bipinnatus, <i>Reeve</i>	II.	6	fiscellum, <i>Chemnitz</i>	XXVII.	124
Blainvillii, <i>Payrandaue</i>	XXVI.	110	florifer, <i>Reeve</i>	XXXVI.	188
<i>Boicini</i> , Kiener	XXVIII.	128	foliatus, <i>Gmelin</i>	III.	12
borealis, <i>Reeve</i>	XXX.	145	<i>formosus</i> , Sowerby	XXI.	86
brandaris, <i>Linnaeus</i>	XXIII.	96	foveolatus, <i>Hinds</i>	XXXI.	151
brassica, <i>Lamarck</i>	XIV.	56	funiculatus, <i>Reeve</i>	XIX.	74
<i>breviculus</i> , Sowerby	XXVI.	118	Gambiensis, <i>Reeve</i>	XVI.	65
<i>brevifrons</i> , Lamarck	III.	13	<i>gilbosus</i> , Lamarck	XXVII.	121
brevispina, <i>Lamarck</i>	XIX.	77	gravidus, <i>Hinds</i>	XXIX.	133
buxeus, <i>Broderip</i>	XXXIII.	170	gyratus (<i>Trophon</i>), <i>Hinds</i>	XXVI.	109
calcar, <i>Kiener</i>	XXIV.	100	hamatus, <i>Hinds</i>	XXVII.	119
calcitrapa, <i>Lamarck</i>	III.	13	haustellum, <i>Linnaeus</i>	XXIII.	95
Californicus, <i>Hinds</i>	XXX.	144	hemitripteris, <i>Lamarck</i>	XXVII.	122
caliginosus, <i>Reeve</i>	XXX.	141	hexagonus, <i>Lamarck</i>	XXVII.	120
cancellatus, <i>Sowerby</i>	XXXIII.	132	<i>hippocastanum</i> Philippi	XI.	44
Capensis, <i>Sowerby</i>	XXXI.	156	horridus, <i>Broderip</i>	XXVIII.	128
Capucinus, <i>Chemnitz</i>	II.	10	humilis, <i>Broderip</i>	XIII.	50
carduus, <i>Broderip</i>	XXVIII.	125	imperialis, <i>Swainson</i>	XI.	42
cariniferus (<i>Fusus</i>), Sowerby	XXXIII.	169	incisus, <i>Broderip</i>	XXXI.	155
centrifuga, <i>Hinds</i>	XXVIII.	130	inconspicuus, <i>Sowerby</i>	XXXII.	164
cervicornis, <i>Lamarck</i>	XVI.	66	inermis, <i>Sowerby</i>	XXXI.	152
chrysostoma, <i>Gray</i>	XXI.	83	<i>inflatus</i> , Lamarck	I.	3
<i>cinguliferus</i> , Lamarck	III.	11	<i>Jatonus</i> , Sowerby	XXVII.	122
cirrosus, <i>Hinds</i>	XXIX.	138	Kieneri, <i>Reeve</i>	XXXIV.	172
clathratus, <i>Reeve</i>	XXAV.	185	laciniatus, <i>Sowerby</i>	I.	2
clavus, <i>Kiener</i>	II.	9	laminiferus, <i>Reeve</i>	XXVI.	117
concinus, <i>Reeve</i>	XXV.	104	lappa, <i>Broderip</i>	XXX.	142
<i>corallinus</i> , Scacchi	XXXII.	165	laqueatus, <i>Sowerby</i>	XXVI.	115
cornutus, <i>Linnaeus</i>	XXIII.	71	lepidus, <i>Reeve</i>	XXVI.	113
corrugatus, <i>Sowerby</i>	XIII.	52	lingua-vervecina, <i>Chemnitz</i>	XXVII.	121
crassilabrum, <i>Gray</i>	XXX.	146	luculentus, <i>Reeve</i>	XXVIII.	127
<i>crassispina</i> , Lamarck	XX.	82	lugubris, <i>Broderip</i>	XXX.	143
crassivaricosa, <i>Reeve</i>	IX.	33	macropteron, <i>Deshayes</i>	XXVII.	123
crispus, <i>Broderip</i>	XVII.	67	maculatus, <i>Reeve</i>	XXXIII.	136
cristatus, <i>Brocchi</i>	XXVI.	112	margariticola, <i>Broderip</i>	XXXIV.	178
<i>cristatus</i> , Gray	XVI.	62	Martinianus, <i>Reeve</i>	XVIII.	72
crocatus, <i>Reeve</i>	XXXIII.	168	maurus, <i>Broderip</i>	IV.	16
cyclostoma, <i>Sowerby</i>	XXXI.	154	megacerus, <i>Sowerby</i>	VI.	24
decussatus, <i>Reeve</i>	XXXI.	153	melanomathos, <i>Gmelin</i>	XII.	48

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	Plate.	Species.		Plate.	Species.
<i>melonulus</i> , Lamarck	III.	14	<i>rosarium</i> , Chemnitz	III. & IX.	14
<i>messorius</i> , Sowerby	XXII.	90	<i>rota</i> , Sowerby	XXV.	105
<i>microphyllus</i> , Lamarck	X.	40	<i>rubescens</i> , Broderip	XII.	45
<i>miliaris</i> , Gmelin	XXV.	102	<i>rubiginosus</i> , Reeve	VIII.	32
<i>Mindanensis</i> , Sowerby	XIX.	78	<i>rubridentatus</i> , Reeve	XXXVI.	186
<i>Mitriiformis</i> , Sowerby	XXXI.	156	<i>rufus</i> , Lamarck	IV.	19
<i>Monoceros</i> , Sowerby	II.	7	<i>rusticus</i> , Reeve	XXXIII.	163
<i>monodon</i> , Sowerby	V.	21	<i>salebrosus</i> , King	XXIV.	98
<i>motacilla</i> , Chemnitz	XXII.	88	<i>Sauliæ</i> , Sowerby	VIII.	31
<i>mundus</i> , Reeve	XXXII.	166	<i>saxatilis</i> , Linnæus	II.	8
<i>muricatus</i> (<i>Trophon</i>), Hinds	XXXI.	147	<i>saxicola</i> , Broderip	VII.	27
<i>nigrescens</i> , Sowerby	XXIII.	92	<i>scabrosus</i> , Sowerby	I.	2
<i>nigrispinosus</i> , Reeve	XX.	79	<i>Scalarioides</i> , De Blainville	XXXII.	161
<i>nigritus</i> , Philippi	XII.	47	<i>scalarinus</i> , Bivon	XXXII.	161
<i>nitidus</i> , Broderip	XVII.	70	<i>scolopax</i> , Dillwyn	XXII.	89
<i>nodatus</i> , Reeve	XXV.	107	<i>scorpio</i> , Linnæus	XXV.	106
<i>noduliferus</i> , Sowerby	XXXI.	150	<i>secundus</i> , Lamarck	XXIV.	97
<i>Norrisii</i> , Reeve	XXVIII.	129	<i>Senegalensis</i> , Gmelin	XXIV.	101
<i>nucula</i> , Reeve	XXIX.	131	<i>similis</i> , Sowerby	XXV.	108
<i>Nuttallii</i> , Conrad	II.	7	<i>Simensis</i> , Reeve	VI.	25
<i>nux</i> , Reeve	XXXV.	181	<i>spectrum</i> , Reeve	XXXVI.	187
<i>occa</i> , Sowerby	XX.	81	<i>spini-costata</i> , Valenciennes	IV.	18
<i>octogonus</i> , Quoy	XXIX.	134	<i>squamulosus</i> , (<i>Fusus</i>) Philippi	XXXV.	184
<i>oculatus</i> , Reeve	IX.	36	<i>Stainforthii</i> , Reeve	XVII.	68
<i>osseus</i> , Reeve	XIV.	73	<i>Steeriæ</i> , Reeve	VIII.	28
<i>oxyacantha</i> , Broderip	IV.	17	<i>Tarentinus</i> , Lamarck	III.	11
<i>palma-rosæ</i> , Lamarck	VIII.	30	<i>tenuispina</i> , Lamarck	XXI.	85
<i>palmiferus</i> , Sowerby	IV.	20	<i>ternispina</i> , Lamarck	XVIII. & XIX.	76
<i>pellucidus</i> , Reeve	XIV.	54	<i>territus</i> , Reeve	XXXIII.	167
<i>peritus</i> , Hinds	XXIX.	139	<i>tetragonus</i> , Broderip	XXVI.	118
<i>Peruvianus</i> , Sowerby	XXIX.	134	<i>torosus</i> , Lamarck	XXXIV.	180
<i>phyllopterus</i> , Lamarck	XVI.	63	<i>torrefactus</i> , Sowerby	X.	41
<i>pinnatus</i> , Wood	XIV.	57	<i>trialatus</i> , Kiener	XIV.	55
<i>pinniger</i> , Broderip	XVI.	62	<i>trialatus</i> , Sowerby	XVI.	63
<i>pistacia</i> , Reeve	XXXIV.	174	<i>tribulus</i> , Linnæus	XX.	82
<i>planiliratus</i> , Reeve	XXXI.	149	<i>triformis</i> , Reeve	XIII.	53
<i>Pleurotomoides</i> , Reeve	XXXIV.	173	<i>trigonalis</i> , Sowerby	XIV.	54
<i>pliciferus</i> , Sowerby	XX.	80	<i>trigonus</i> , Kiener	I.	4
<i>polygonulus</i> , Lamarck	XXXIII.	165	<i>trigonus</i> , Lamarck	XXII.	97
<i>pomum</i> , Gmelin	IX.	35	<i>trilineatus</i> , Reeve	XXV.	103
<i>princeps</i> , Broderip	VI.	23	<i>tripterus</i> , Born	XIV.	55
<i>pudicus</i> , Reeve	XXIX.	137	<i>triqueter</i> , Born	I.	4
<i>pudoricolor</i> , Reeve	XXXIII.	171	<i>trunculus</i> , Linnæus	V.	22
<i>Purpura</i> , Chemnitz	XXV.	102	<i>tumulosus</i> , Sowerby	XXIII.	94
<i>purpuratus</i> , Reeve	XXXV.	183	<i>turbinatus</i> , Lamarck	III.	15
<i>Purpuroides</i> , Dunker	XXXII.	158	<i>uncinarius</i> , Lamarck	XXXI.	156
<i>quadrifrons</i> , Lamarck	II.	10	<i>uncinari</i> , Sowerby	II.	9
<i>radicatus</i> , Hinds	XXX.	148	<i>varicosus</i> , Sowerby	XII.	49
<i>radix</i> , Gmelin	XVII.	69	<i>varius</i> , Sowerby	IX.	34
<i>ramosus</i> , Linnæus	I.	3	<i>vibex</i> , Broderip	XXXIV.	175
<i>rarispinga</i> , Lamarck	XXI.	86	<i>vittatus</i> , Broderip	XXIX.	140
<i>rectirostris</i> , Sowerby	XXII.	91	<i>vitulinus</i> , Lamarck	XXV.	102
<i>recurvirostris</i> , Broderip	XIX.	75	<i>Zelandicus</i> , Quoy	XXXIV.	177
<i>regius</i> , Wood	XV.	59			

ERRATA.

- Species 8, *MUREX SAXATILIS*, add as synonyme, *Murex erystoma*, Swainson.
Species 14, instead of " for description of which see Pl. VIII." read Pl. IX.
Species 64, for *MUREX ACANTHOPTERUS*, read *MUREX ACANTHOPTERUS*.
Species 76, for Fig. 73. Pl. XIX. read Fig. 73. Pl. XVIII.
Species 133, insert the Latin, *Mur. testâ globoso-fusiformi, solidâ, transversim costatâ, costis approximatis, lamellatis, varices super paululum divergentibus; quinquevaricosâ, varicibus prominentibus, posticâ foraminatis; albd, fusco superne fasciatâ; aperturâ ovali; canali longiusculo, subascendente, sinistrorsum recurvo.*
Species 166, for *MUREX EXIGUUS* read *MUREX MUNDUS*.



189



190



191



192



193 a



193 b



194

MUREX.

SUPP. PLATE I.

Species 189. (Mus. Gubba.)

MUREX STRIGATUS. *Mur. testā trigono-fusiformi, transversim granilratā et striatā, tuberculis duobus, quorum uno multo majore inter varices; trivariicosā, varicibus regulariter frondosis, frondibus floriferis, æqualibus, aperturā parvā, canali clauso; ustulato-fuscescente, castaneo transversim undique strigatā.*

THE STRIPED MUREX. Shell triangularly fusiform, transversely granulately ridged and striated, two tubercles between the varices, one of which is much the larger; three-varicose, varices regularly frondose, fronds floriferous, equal, aperture small, canal closed; light burnt brown, transversely striped throughout with dark chestnut.

Hab. — ?

An interesting new species from the collection of M. Gubba of Havre.

Species 190. (Mus. Taylor.)

MUREX RORIFLUUS. *Mur. testā fusiformi, subcentricosā, anfractibus transversim obscure liris, rugosis, quadrivariicosis, varicibus rudibus, simplicibus, planulatis, obscure denticulatis, aperturæ margine dentato; sordidè cinerascete, intus nigricante-castaneā, varicibus albidis.*

THE BEDEWED MUREX. Shell fusiform, slightly ventricose, whorls transversely obscurely ridged, rugose, four-varicose, varices rude, simple, flattened, obscurely denticulated, margin of the aperture toothed; dull ash-colour, blackish chestnut within, varices white.

ADAMS and REEVE, Moll. Voy. Samarang, pl. 8. f. 2. *a, b.*
Hab. Korean Archipelago; Belcher.

Of a very dark chestnut colour interiorly, the outer surface being of a dull ash, with the lip and varices white.

Species 191. (Mus. Taylor.)

MUREX FLORATOR. *Mur. testā trigono-ovatā, anfractibus lævibus, trivariicosis, varicibus compresso-alatis, aperturā parvā, rotundatā, canali clauso; castaneo-fuscā, medio transversim albizonatā.*

THE MOURNER MUREX. Shell triangularly ovate, whorls smooth, three-varicose, varices compressly winged, aperture small, rounded, canal closed; chestnut-brown, transversely white-zoned in the middle.

ADAMS and REEVE, Moll. Voy. Samarang, pl. 8. f. 3. *a, b.*

Hab. Korean Archipelago; Belcher.

Belonging to the same division of the genus as the *M. eurypteron*.

Species 192. (Mus. Taylor.)

MUREX BURNETTII. *Mur. testā trigono-ovatā, crassiusculā, anfractibus transversim obsoletè costatis, trivariicosis, varicibus latè fimbriatis, dente unico marginali prominente, aperturā ovali, canali clauso; albidā, castaneo-fusco plus minusve tinctā.*

BURNETT'S MUREX. Shell triangularly ovate, rather thick, whorls transversely obsoletely ribbed, three-varicose, varices broadly fimbriated, with a single prominent marginal tooth, aperture oval, canal closed; whitish, more or less stained with chestnut-brown.

ADAMS and REEVE, Moll. Voy. Samarang, pl. 8. f. 4. *a, b.*

Hab. Korean Archipelago; Belcher.

A fine species, very distinct from any hitherto described of which only one or two specimens were collected in a more or less mutilated condition. The canal is closed over, and each varix is furnished with a remarkably prominent tooth.

Species 193. (Mus. Gubba.)

MUREX GUBBI. *Mur. testā trigono-fusiformi, basin versus contractā, anfractibus supernè depresso-concavis, granoso-striatis et liris, liris irregulariter nodulosis, trivariicosis, varicibus frondosis, frondibus angustis, irregularibus, unicā medianā bifurcatā, supernā multo majore, peculiariter falcata; labro intus conspicuè dentato; adustā, prope basin anticè fuscescente, aperturæ fauce cærulescente-albā.*

GUBBA'S MUREX. Shell triangularly fusiform, contracted towards the base, whorls depressly concave round the upper part, transversely granosely striated and ridged, ridges irregularly nodulous, three-varicose, varices frondose, fronds narrow, irregular, a single middle one bifurcated, the uppermost frond much the larger, peculiarly hooked; lip conspicuously toothed; cinder-black, fulvous in front near the base, interior of the aperture bluish-white.

Hab. — ?

June, 1849.

M. Gubba possesses two specimens of this very interesting new species, to which I have the pleasure of attaching his name.

Species 194. (Mus. Cuming.)

MUREX UNICORNIS. *Mur. testâ subfusiformi-oblongâ, crassâ, obliquè trigonâ, transversim obscure costatâ, tuberculo magno inter varices, varicibus incrassatis, obtusis, ultimo intus denticulato, dente unico conspicuo erecto elongato, canali brevissimo, clauso; albâ, castaneo tinctâ.*

THE UNICORN MUREX. Shell somewhat fusiformly oblong, thick, obliquely triangular, transversely obscurely ribbed, with a large tubercle between the varices, varices thickened, obtuse, last whorl denticulated within, one tooth conspicuous, erect, elongated, canal very short, closed; white, stained with chestnut.

Hab.——?

This approaches very near to the *M. monoceros*, but is of a different form and of more solid growth.

MONOGRAPH
OF THE GENUS
C Y P R Æ A.

“What wonder then if with one virtuous touch
The arch-chimic sun, so far from us remote,
Produces, with terrestrial humour mixed,
Here in the dark so many precious things
Of colour glorious and effect so rare.”—*Milton*.

CYPRÆA.

PLATE I.

Genus CYPRÆA, Linnæus.

Testa ovata vel oblongo-ovata, ventricosa, polita, interdum nodifera aut costellata, extremitatibus canaliferis aut emarginatis; spirâ brevissimâ, partim vel omnino occultâ; aperturâ subcentrali, longitudinali, angustâ; columellâ labroque per totam longitudinem plus minusve denticulatis, interdum at raro edentulis.

Shell ovate or oblong-ovate, ventricose, polished, sometimes nodiferous or ribbed, with the extremities channelled or emarginated; spire very short, partially or entirely concealed; aperture nearly central, longitudinal, narrow; lip and columella more or less toothed throughout their entire length, sometimes, but rarely, without teeth.

There is perhaps no group in the series whose shells have excited more admiration than those of the *Cyprææ*; the Cowry is generally the first to attract the attention of the amateur, and its physiological history offers matter of no less interest to the man of more abstruse habits of enquiry.

The *Cypræa* is a mollusk of very peculiar character: first, on account of the different phases presented by its shell at different periods of growth; and, secondly, on account of the curious property which the animal possesses of dissolving and renewing its shell. The original growth of the Cowry is, undoubtedly, a process of time; but the re-calcification of a shell at maturer age appears to be the work of a few days only.

The first stage of advancement produces a simple convolution of shell around a columella axis in the form of a long drawn out Bulla, the columella being smooth, the outer lip thin, and the colour usually diffused in bands of waves. In the second epoch of growth the shell solidifies, the lip and columella begin to thicken, and present gradual indications of teeth, the teeth become more and more perfectly developed, and the dorsal surface is overlaid with a strong coat of livid colouring matter also diffused in obscure bands or waves. The calcifying energies of the mantle, which, extending in two unequal lobes one from either side of the shell's aperture, have been chiefly exercised during the second epoch of growth upon the dorsal surface, are now more particularly directed to the base

and sides. The teeth are strengthened, the sides become thickened with a rich coating of enamel, and the growth of the shell is completed by a light fabric of colouring matter deposited in lines, blotches, waves, or reticulations, of various hues and patterns.

The re-calcification of a shell at maturer age has been a subject of some difference of opinion amongst naturalists. Bruguière first introduced the fact, and Lamarck says "I possess observations which tend to prove that the Cowry, arrived at the power of forming a complete shell, has still the faculty of enlarging its habitation, and is then obliged to quit the shell in order to form a new one. It results from this that the same individual has the power of forming a successive number of shells during both the second and third stages of growth; and which accounts for our often meeting with so many different sizes of the same species"!

M. Deshayes, after furnishing us with an excellent account of the zoological characters of *Cypræa*, derived mainly from the observations of M. M. Quoy and Gaimard, argues against the possibility of any re-modelling of the shell taking place, and regards the statement of Lamarck as a theory opposed to the common laws of organization. To the supposition of Bruguière that the Cowries cast their shells after the manner of Crabs, M. Deshayes very properly replies that there can be no analogy between them. The new shell of the *Crustacea* is formed by a secretion of equal consistency from every part of the body, whereas the *Mollusca* have a muscular attachment to the columella, and increase the growth of their shell by an exudation, not from the whole body, but from a particular organ;—the mantle being the sole agent charged with that faculty. It is further argued by the same distinguished naturalist that the Cowry must lose the power of forming the inner chambers of the columella anew, after having once passed that early process of developement which induces their formation. "How is it possible," asks M. Deshayes, "that the animal can, under the circumstances of its nature, secrete a new shell from all parts of the body at once, and with all the different phases of colour exhibited in the original, when it has reached to an advanced condition of its existence?"

It is, however, certain that the Cowry is enabled to effect a very important change in the shell during one or more periods of its life; and I think the fact may be fully established without prejudice to the excellent arguments of my illustrious contemporary. From the testimony of a gentleman, who worthily employs the opportunities afforded him as a Naval Officer to the advancement of science, whose veracity is beyond all question, and whose communication (given verbatim)* contains nothing more than a simple narrative of the phenomena of which he was himself an eye-witness, it may, I think, be deduced that it is the outer wall of the shell only which is re-constructed, the columella with its spiral compartments remaining undisturbed. The animal does not quit the shell as Lamarck supposed, but dissolves the outer portion with its acetose juices. All visible trace of the shell may be thus removed without weakening M. Deshayes' proposition founded on the circumstance of the mantle being the only organ charged with the secretive fluid. The mantle is always capable of extension over the shell; and the same power which furnishes the adult with its last coating of enamel can be exerted to the formation of as many superincumbent layers as may be necessary to replace all that has been decomposed. That a dissolution takes place there can be no doubt:—"the shell gradually swells," says Lieut. Hankey, "and cracks, becomes thinner, and duller in colour, and finally disappears;" a circumstance which may be easily credited when it is remembered that the *Murex* possesses the faculty of removing spines or any similar obstacles to its advancement of growth, and that the *Pholades*, and other terebrating mollusks, exercise a power of absorbing which enables them to penetrate the hardest limestone rock. The microscopical structure of the Cowry shell is, moreover, of a nature peculiarly tenacious of absorption; it is composed of a large quantity of carbonate of lime in proportion to the amount of membranous substance; and this accounts for its surface be-

coming vitrified, as it were, to such a highly polished state of enamel when in contact with the acidity of the soft parts.

There is another circumstance in Lieut. Hankey's narrative to which attention should be given, respecting the formation of the new shell:—the glutinous matter which has the appearance of shell-lac, and is so fragile that it yields to the touch, does not assume the narrow cylindrical *Bulla* form, it does not follow the original plan of revolving round a columellar axis, but is of the wide, ventricose shape of a *Cymba*, and rapidly consolidates into the adult shell.

With these generalizations I think it may be assumed that the Cowry possesses the faculty of decomposing, during one or more periods of its existence, any portion of the shell that is liable to resist its advancement of growth; that the renewal of the shell is accomplished within a comparatively short space of time; and that the columella with its internal spiral partitions remains undisturbed. It may, however, be inferred that it is an operation of extremely rare occurrence, and one which only happens under peculiar conditions.

The *Cyprææ* present two very distinct groups;—the larger species in which the surface of the shell is highly enamelled, and the smaller species in which it is disposed in grooves and ridges of a lighter character and of more delicate colouring. In the first division there are two or three species from South Africa of a peculiar opaque white structure, of which the *C. Algoensis* and *Capensis* may be quoted as being the types of Mr. Gray's genera *Luponia* and *Cypræovula*; the second division is the genus *Trivia* of the same writer.

The genus *Cypræa* presents little variety of form but a diversity of colouring; it contains several very distinct and characteristic species of unusual rarity, and which our country can alone boast of possessing. Of these the *Cypræa princeps* and *leucodon*, in our national collection,

* LIEUT. J. B. HANKEY, R.N., to LOVELL REEVE.

My dear Sir.

Will you allow me to offer you a few remarks on the habits of the *Cypræa* as regards the fact of its making a new shell, at an advanced age, of which process I have been myself in more than one instance an eye-witness. I have seen the Cowry crawl into some hollow or sheltered place, evidently for some predetermined purpose. The growth of the animal appears to increase too large for its cell; it gradually swells and cracks the shell, and I think that some powerful solvent or decomposing fluid is distributed over the outer surface by the mantle of the fish, for it gets thinner in substance, and the colours duller in appearance. The shell then entirely disappears, the Cowry becomes, to all appearance, a naked mollusk, with no other covering than its membranous mantle, and in a short time secretes a thin layer of glutinous matter which in a few days obtains the fragile consistency of shell-lac. From this step its growth is more rapid, and it becomes more and more consolidated into the adult shell. When in the first stage of renewal it has the appearance of shell-lac it is always of the *Cymba* form, but I have never succeeded in preserving any specimens in this state on account of their extreme fragility.

Trusting that you may make some use of these notes, and that (as I have a good dredge with me) I may, like Mr. Cuming, succeed in bringing home something worthy of notice, I shall conclude myself, my dear sir,

Yours very truly,

JOHN B. HANKEY.

H.M.S. Collingwood, August 6th, 1844.



are perfectly unique ; it seems curious that Nature should not have exercised her accustomed prodigality in the perpetuation of these species, for instead of being the solitary living witnesses of an extinct period of the world's history whose fauna only remains to us in a fossil state, they are a new creation, framed with an exuberance of character quite unapproached by any other species. They are both in the finest possible condition, and may certainly be regarded as the most valuable shells yet discovered. The next in value are the *C. Broderipii* and *guttata* ; of the former, three specimens are known, two of which are in this country ; of the latter, five, of which we possess four. Of distinguished rarities of smaller size may be mentioned *C. Cumingii*, *Sauliæ*, *xanthodon*, *similis*, *contaminata* and *teres*, all in our collections.

There is little to be said on the geographical distribution of the Cowries except that they are strictly tropical. Only one or two very small grooved species are found on our own coast, and none larger than the *C. lurida* in the Mediterranean. The *C. Scottii* may be quoted as a fine example of the New Holland region, and the *C. aurora*, which is now a shell of frequent occurrence, of the Pacific. The *C. pantherina* is brought in extraordinary abundance from the Red Sea, but the great portion of the species are from Mauritius, Ceylon, and other parts of the eastern world.

The genus *Cypræa* has been so fully and ably investigated by Mr. Gray and Mr. Sowerby, that scarcely a species is to be found which has not already been described and figured ; I have only, therefore, in the absence of any novelty in kind, to contribute such observations as may appear to be worthy of recording.

Species 1. (Fig. *a* Mus. Saul. and *b*. Mus. Cuming.)

CYPRÆA MAURITIANA. *Cypr. testâ subovatâ, crassissimâ, dorso gibboso-elevato, lateribus angulatis, basi concavo-planulatâ, aperturâ valdè sinuosâ, dentibus prominulis; basi lateribusque nigricante-fuscis, dorso fulvo-fusco, subfasciato, reticulâ irregulari nigricante-fusâ super-tecto, columellâ albicante.*

THE MAURITIUS COWRY. Shell subovate, very thick, back elevated into a kind of hump, sides angulated, base concavely flattened, aperture very sinuous, teeth rather prominent ; base and sides blackish brown, back light fulvous brown, obscurely banded, covered over with a reticulated coating of blackish-brown, columella whitish.

Testa junior. (Fig. *a*.)

Fulvo-fusca, maculis luteis flammeolis triangularibus promiscuè aut subirregulariter trifasciatim ornatâ.

Fulvous brown, ornamented with triangular yellowish

flame-like spots arranged either promiscuously or in three irregular bands.

Testa juvenis.

Fulva, fusco fasciatim undata.

Yellow, with bands of waved brown.

LINNÆUS. Syst. Nat. (12th edit.) p. 1176.

Hab. Island of Mauritius, Ceylon, &c.

The form of this shell is chiefly distinguished by the hump-like elevation of the back, and concavity of the base. Its primitive colouring in the *Bulla* form is a pale yellow, over which the fulvous brown spreads in bands of waves ; in an intermediate state the waves become agglomerated, and leave the yellow in triangular flame-like spots ; and when the teeth are fully developed, the sides become thickened with a rich dark blackish-brown coating which is thinly spread over the dorsal surface, opening into irregular reticulations just as if its flow had been disturbed by the intermixture of some oily liquid.

Such a variation of colour as is exhibited in this shell at different stages of growth, has naturally given rise to many errors among early writers which it is scarcely necessary to enumerate. Gmelin describes it in its earliest state as a *Bulla*, (*Bulla cypræa*), and in its intermediate state as a species (*Cypræa trifasciata*), distinct from the adult. Chemnitz figured a fine example of the middle stage of growth, such as I have represented at fig. *a*, as "The Queen of Cowries" (*Cypræarum regina*), and other names have been introduced of which no notice need be taken.

The *Cypræa Mauriliana* must be a mollusk of great muscular power, for its shell is truly the heaviest and most solid of the series ; the enamel round the sides is deposited with remarkable thickness, and its appearance altogether indicates a considerable degree of energy in the testaceous properties of its inhabitant.

Species 2. (Mus. Saul.)

CYPRÆA ARABICA. *Cypr. testâ oblongo-ovatâ, basi sub-planulatâ, lateribus plus minusve incrassatis; dorso livido-fusco indistinctè fasciato, lineis brevibus hieroglyphicis hic illic interruptis, vacuis orbicularibus formantibus, longitudinaliter ornato; basi albicante, plus minusve rubido-fusco tinctâ, lateribus maculis fusco-nigricantibus promiscuè pictis; dentibus rubido-fuscis, extremitatibus nigricantibus.*

THE ARABIC COWRY. Shell oblong-ovate, base rather flattened, sides more or less thickened ; back livid-brown, indistinctly banded, longitudinally ornamented with short hieroglyphical lines, interrupted here and there so as to form round vacant areas, base whitish ; more

or less tinged with reddish brown, sides promiscuously painted with brownish black spots, teeth reddish brown, extremities blackish.

Testa junior.

Livido-cærulescens, fusco undato-fasciata.

Livid-blue, banded with brown waves.

Variety *Cypræa eglantina* Duclos.

LINNÆUS, Syst. Nat. (12th edit.) p. 1173.

Hab. Eastern Seas.

The *Cypræa Arabica* is well distinguished by the lines of hieroglyphical character which cross the dorsal surface from one extremity to the other, leaving a greater or less number of circular vacancies showing the under coating; the sides are ornamented with a number of promiscuous blackish spots, some of which are often partially obscured by the overflowing of the brown-tinged milky enamel of the base.

The young of this species appears to have been described by Linnæus in different states under the names of *Cypræa fragilis* and *amethystea*; and an oblong livid-green variety in which the Arabic lines are fine and rather close-set has been named by Duclos *Cypræa eglantina*.

Species 3. (Mus. Cuming.)

CYPRÆA RETICULATA. *Cypr. testā ovatā, lateribus dorsoque gibbosis, lateribus valdè incrassatis; dorso livido-cærulescente, fusciscente obscurè fasciato, reticulā consummatā fuscā undique picto; basi lacteā, maculis purpureo-nigricantibus promiscuè et creberrimè pictā; dentibus nigricante-fuscis.*

THE RETICULATED COWRY. Shell ovate, sides and back gibbous, sides very much thickened; back livid-blue, obscurely banded with very pale brown, and painted throughout with elaborate net-work; base milky white, promiscuously and very closely painted with purple-black spots; teeth blackish brown.

MARTYN, Universal Conchology, pl. 15.

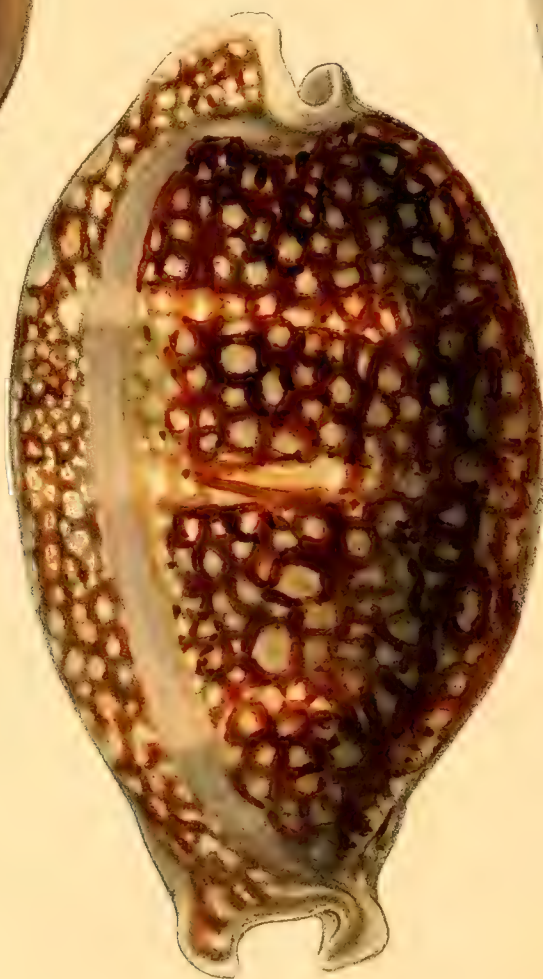
Cypræa histrio, Gmelin, Lamarck.

Cypræa arlequina, Chemnitz.

Cypræa Arabica var., Gray.

Hab. Eastern Seas.

I quite agree with Lamarck in the propriety of distinguishing this shell from the *Cypræa Arabica*; it is true they run very closely into each other, but we must judge of their typical difference. The *Cypræa Arabica* is of an oblong form, marked with lines of hieroglyphical character running from one extremity to the other, but interrupted in such a manner here and there as to leave an irregular display of vacancies showing the under layer of colouring matter. In the *Cypræa reticulata* the under layer of colouring matter is much more exposed, the dorsal surface having merely a fine net-work thrown over it, the vacancies in which are clear and definite. This peculiarity of pattern in the Cowries has not been correctly represented by the term "spots"; it is only a deposite of colouring matter such as characterizes the *Cypræa tigris*, and the sides of these shells, that can be termed spots. These spot-like appearances are merely that visible portion of the under layer of colouring matter which the light fabric of the adult does not affect.



CYPRÆA.

PLATE II.

Species 4. (Mus. Saul.)

CYPRÆA EXUSTA. *Cypr. testā pyriformi-ovatā, anticè contractā, basi lateribusque rotundis, aperturā subsinuosā, extremitate posticā productā; dentibus subtilibus numerosis brevibus, interioribus plus minusve tritis; columellæ parte internā cum concavitate anticā lævigatis; dorso exusto-fusco, obscure fasciato, interdum flavescente, extremitatibus lateribus basique piceo-nigris, dentum interstitiis albidis, columellæ parte anticā albidā,*

THE SCORCHED COWRY. Shell pyriformly ovate, contracted anteriorly, base and sides rounded, aperture subsinuuous, posterior extremity produced; teeth fine, numerous, short, inner teeth more or less worn, internal portion of the columella, together with the anterior concavity, smooth, back dark burnt brown, obscurely banded, sometimes yellowish, extremities sides and base pitch-black, interstices between the teeth whitish, anterior portion of the columella whitish.

SOWERBY, Conch. Illus. Cat. Cypræadæ, No. 25.
f. 2*.

Cypræa talpa exusta, Gray.

Hab. Red Sea.

Although the differences between the *Cypræa talpa* and *exusta* are of so nice a character, they are nevertheless uniform and constant. The distinguishing features of the *C. exusta* consist in its rounded pyriform shape, peculiarly pinched, as it were, at the anterior end, with the posterior extremity more than usually produced under similar influence. The teeth are fine and merely marginal in the outer lip whilst in the anterior concavity of the columella, which is destitute of any colouring matter, and on the inner portion, they are completely absorbed or abraded. Another peculiarity in this species is that the dorsal surface is usually of a rich dark burnt brown colour.

The *Cypræa exusta* first made its appearance among a large importation of *Cypræa pantherina*. Some merchants of Alexandria traded to some considerable extent, a few years since, in the Panther Cowry of the Red Sea; a number of cases were sent to this country, containing from three to four hundred pounds weight of them, and they were publicly sold in the produce market. Amongst these a few of the *Cypræa exusta* and *pulchra* were found, but none of the *Cypræa talpa*.

Species 5. (Mus. Saul.)

CYPRÆA TALPA. *Cypr. testā cylindraceo-ovatā, oblongā, lateribus angulato-rotundatis, basi subdepressā; dentibus parvis, numerosis, interioribus columellam subobliquè et irregulariter transcurrentibus; dorso flavescente, obscure bi-trifasciato, extremitatibus lateribus basique exusto-vel nigricante-fuscis, dentum interstitiis albidis.*

THE MOLE COWRY. Shell cylindrically ovate, oblong, sides angularly rounded, base rather depressed; teeth running somewhat obliquely and irregularly across the columella; dorsal surface pale yellow, obscurely two or three-banded, extremities sides and base dark burnt or blackish brown, interstices between the teeth whitish.

LINNÆUS, Syst. Nat. (12th edit.) p. 1174.

Hab. Eastern Seas.

This species will be found upon comparison to differ materially from the preceding in form. The *Cypræa exusta* is of a rounded pyriform shape, contracted towards the anterior extremity; the *Cypræa talpa* is of an oblong cylindrical form with the base just sufficiently flattened to give a slight angular character to the sides. The outer teeth are not worn away, but very neatly developed across the entire surface of the columella; the spire of the *Cypræa talpa* is less concealed by the superposition of the basal coat of enamel; the enamelling is altogether lighter, and there are many appearances in the shell which seem to indicate that the calcifying properties of its inhabitant are of a less energetic character than those of the *Cypræa exusta*.

It may be as well perhaps to notice that in the young of this species, the shell is entirely yellow, with obscure brown-tinged bands; the rich basal coating of dark enamel is the last deposit in its formation.

Species 6. (Fig. a and b Mus. Cuming.)

CYPRÆA CERVUS. *Cypr. testā oblongo-ovatā, tenuiculā, ventricosā, aperturā latiusculā, anticè patentiore, extremitatibus anticis peculiariter plano-productis; fulco-fusca, maculis parvisculis numerosis, rarè ocellatis, ornatā; dentibus nigricante-fuscis, internis confertis, subirregularibus; intus violaceā.*

THE STAG COWRY. Shell oblong-ovate, rather thin, ven-

tricose, aperture rather wide, more open anteriorly, anterior extremities peculiarly flatly produced; fulvous brown, ornamented with numerous rather small white spots, rarely ocellated; teeth blackish brown, the inner close-set and rather irregular; interior violet.

Testa junior. (Fig. 6. a.)

Testa junior fasciis quaternis latiusculis cæruleo-plumbeis transversim radiata.

Younger shell transversely radiated with four rather broad blueish lead-coloured bands.

LINNÆUS Mantissa, p. 548.

Cypræa cervina, Lamarck.

Cypræa cervina and *cervinetta* Kiener, Deshayes.

Hab. Pacific Islands (under stones); Cuming.

This species is, as Chemnitz truly calls it, the "*Cypræarum maxima*", peculiarly distinguished from its congener

the *Cypræa exanthema* by a light inflated growth, smaller ino-cellated spots, and wider separation of the lip and columella anteriorly; it has, however, a diminutive variety as the name *cervinetta*, adopted by Kiener and Deshayes implies. In this the colours are of a deeper hue, the bands of the younger shell are of a leaden blue colour and the basal coating of enamel in the adult is of a rich dark brown.

The *Cypræa cervus* and *exanthema* were frequently confounded together by early writers; Gmelin and Schreiber have even made four species of the different phases which they exhibit at different periods of growth,—*Cypr. plumbea*, *dubia*, *bifasciata* and *oculata*. These synonymes are, however, best left in obscurity; in the present state of our knowledge, with the means of figuring examples of all the different stages of growth in the finest possible condition, any errors that may have arisen from a less perfect state of things, once exposed, had better remain unrecorded.



7



8a



8



8c

CYPRÆA.

PLATE III.

Species 7. (Mus. Saul.)

CYPRÆA PANTHERINA. *Cypr. testā subpyriformi-ovatā, ventricosiusculā, extremitatibus subattenuatis, aperturā anticē paululum hiantē, dentibus parvisculis, præcipuè columellaribus; albidā, flavo rufove inquinatā, dorso guttis nigricante-fuscis, interdum cœruleo-nebulatis aut intense castaneis, profusè picto, lineā dorsali ferrugineo-rufā, lateribus sæpè rufo aut violaceo tinctis.*

THE PANTHER COWRY. Shell somewhat pyriformly ovate, rather ventricose, extremities slightly attenuated, aperture a little gaping at the anterior end, teeth rather small, especially the columellar; whitish, besmeared with red and yellow, back profusely painted with intensely chesnut or blackish-brown spots, sometimes clouded with blue, dorsal line rusty red, sides often tinged with red or violet.

Testa junior.

Testa junior cinereo-viridescens, fulvo rufoque nebulata.

Younger shell ashy green, mottled with red and yellow.

SOLANDER, Dillwyn, Cat. of Shells, v. 1. p. 449.

Cypræa guttata and *tigrina*, Lamarck.

Monstrosity. *Cypræa umbilicata*, Sowerby.

Hab. Red Sea.

This shell, which has been received in extraordinary abundance from the Red Sea, varies in colour from a pale sickly white to a very deep chesnut red, profusely adorned with small blackish-brown spots clouded with blue.

The shell, described and figured by Mr. Sowerby in the Tankerville Catalogue, under the name of *Cypræa umbilicata*, has been subsequently acknowledged a monstrosity.

The name *tigrina*, given to this species by Lamarck, would certainly have been adopted had it not been previously used, though erroneously, by Gmelin. The names given to shells by Dr. Solander are of no authority unless adopted and printed by any subsequent naturalist; although they appear in a manuscript to which all the world may have access, yet, they have never been strictly published.

Species 8. (Mus. Saul.)

CYPRÆA ARGUS. *Cypr. testā ovato-oblongā, subcylindraceā, medio leviter contractā, aperturā subangustā, dentibus mediocris, numerosis; lacteo-fuscescente, dorso trifasciato, fasciis latis, diametrorum variorum annulis defor-*

mibus fulvo-fuscescentibus, plus minusve numerosis, quorum nonnullis impletis, promiscuè picto, basi maculis quaternis nigricante-castaneis ornatā, quarum duabus columellaribus multò majoribus; dentibus fusco-marginatis.

THE ARGUS COWRY. Shell ovately oblong, somewhat cylindrical, slightly contracted in the middle, aperture rather narrow, teeth middling, numerous; pale milky brown, back three-banded, bands broad, promiscuously painted with a greater or less number of misshapen fulvous brown rings of different diameters, some of which are filled in, base ornamented with four large blackish chesnut spots, two on each side the aperture, of which the columellar are much the larger; teeth edged with brown.

Testa juvenis.

Testa juvenis fulvescente-fusca, fasciis plurimis angustis, maculis castaneis perpaucis irregularibus interruptis, cinquilata.

Young shell pale fulvous brown, encircled with several narrow bands, interrupted with a very few irregular chesnut blotches.

LINNÆUS, Syst. Nat. (12th edit.) p. 1173.

Hab. Ceylon, &c.

It is difficult to conceive from what peculiar modification of the mantle, this shell receives its curious deposit of rings. They are of very irregular size, and much more numerous in some specimens than in others, one here and there being filled up with colour. I have two or three very young examples of this species in the Bulla form collected by Mr. Cuming, but never remember to have seen it in the stage of growth, before the rings are diffused.

The *Cypræa Argus* is well named after the hundred-eyed Arestorides, although its imaginary eyes vary in different specimens from one to at least five hundred in number.

Species 9. (Fig. a. Mus. Saul, Fig. b. Mus. Cuming.)

CYPRÆA TESTUDINARIA. *Cypr. testā elongato-ovatā, subcylindraceā, crassā, extremitatem versus utrinque declivibus, aperturā angustā, dentibus parvisculis, numerosis; lacteo-fuscescente, dorso fulvo castaneoque nebulato et maculato, punctulis albis furfuraceis profusè adperso, basi incarnato-fuscā.*

THE TORTOISE-SHELL COWRY. Shell elongately ovate, somewhat cylindrical, thick, inclining steeply down each side towards the extremity, aperture narrow, teeth rather small, numerous; milky brown, back clouded and spotted with fulvous and chesnut brown, and profusely sprinkled with minute white scurf-like dots, base flesh-tinged brown.

Testa junior.

Testa junior lacteo-fusca uniusmodi obscure fasciata, fasciis circa columellam maculis castaneis irregularibus interruptis.

Young shell uniform pale milky brown, obscurely banded, bands interrupted about the columella with irregular chesnut blotches.

LINNÆUS, Syst. Nat. (12th edit.) p. 1173.

Hab. Mauritius.

This is certainly a most characteristic species, unlike any other of the genus both in form and colouring, which latter, as its name implies, is of a rich tortoise-shell pattern. The chief peculiarity of the shell consists in its being sprinkled with a fine scurf of promiscuous white specks, which may be observed to be imbedded at different depths in the enamel; and it is only in the last coating of enamel that this scurf occurs.

In the young shell there are several bands of interrupted chesnut-brown blotches, very irregular in size, and more or less obscure in appearance; they begin to change as the second stage of growth is proceeding, and entirely disappears during the progress of the third.



CYPRÆA.

PLATE IV.

Species 10. (Mus. Saul.)

CYPRÆA SCOTTII. *Cypr. testâ oblongo-naviformi, extremitatibus contractis et erecto-recurvis, aperturâ angustâ, sinuatâ, dentibus parvis, numerosis, interioribus plus minusve obsoletis, exterioribus, quorum nonnullis medianis bipartitis, brevibus; dorso cinereo-cærulescente, flavescente-fusco promiscuè maculato et nebulato, basi lateribusque piceo-fuscis.*

SCOTT'S COWRY. Shell oblong-boat-shaped, extremities contracted and erectly recurved, aperture narrow, sinuated, teeth small, numerous, the inner more or less obsolete, the outer, some of the middle of which are bipartite, short; back pale ashy blue, promiscuously blotched and clouded with yellowish brown, base and sides dark pitchy brown.

Variety β .

Testa brevior, dorso gibboso-elevato, maculis omnino nebulatis; dentibus exterioribus basem super transcurrentibus.

Shell shorter, back gibbously elevated, with the spots wholly clouded into each other; outer teeth running across the base.

Testa junior.

Testa junior cæruleo-lactea, obscure fasciata, maculis flavescendo-fuscis hic illic ornata, columellæ basi albicante.

Younger shell blueish milky colour, obscurely banded, ornamented here and there with pale yellowish-brown blotches; base of the columella whitish.

Testa juvenis.

Testa juvenis uniusmodi lacteo-aurantia, columellæ basi niveâ.

Young shell uniform milky orange colour, base of the columella snowy white.

BRODERIP, Zool. Journal, vol. v. p. 330. pl. 14. f. 1. and 2.

Cypræa Friendii, Gray.

Hab. Swan River, New Holland. Variety β . Port Lincoln, New Holland.

This very striking species was introduced about fourteen years since, by Mr. Broderip, in the Zoological Journal, from two eroded specimens, brought by the Rev. Archdeacon Scott, from Angia, in the Island of Java. Since then, several examples in the finest possible condition have been received from Swan River, New Holland, with a very

characteristic variety from Port Lincoln of the same continent; and I am now enabled to give an amended description of it in different states of growth. The shell in its first Bulla, or rather Cymba, form, is of an uniform pure clear milky orange colour, it then assumes a blueish tinge disposed in obscure bands, and begins to show a few bright tortoise-shell brown blotches, which rapidly accumulate, as exhibited in the adult, long before there is any indication of teeth. This is an arrangement different to that of most Cowries, in which the teeth are chiefly developed before the last layer of colouring matter is deposited. The sides and base then become thickened with an extremely rich pitchy brown coating of enamel, and the extremities compressed and turned upwards.

The variety from Port Lincoln differs most conspicuously both in form and colour; it is much shorter, the back is swollen and elevated almost into a hump, the extremities are blunted, and the outer teeth, which in the Swan River variety are scarcely more than marginal, extend across the base, especially the anterior portion, in grooved prominent ridges. The inner teeth of this species are very obscure; indeed, the columella is mostly edentulate.

The young of this species and several others will be figured together at the close of the monograph.

Species 11. (Mus. Cuming.)

CYPRÆA AURANTIUM. *Cypr. testâ oblongo-ovatâ, ventricosâ, immaculatâ, dorso dentibus interstitiisque vividè aurantiis, basi lateribus et extremitatibus lacteis.*

THE ORANGE COWRY. Shell oblong-ovate, ventricose, unspotted, back, teeth, and interstices bright orange, base, sides, and extremities milk-white.

Testa junior.

Testa junior columellâ vividè aurantiâ.

Younger shell with the columella bright orange.

MARTYN, Universal Conchology, vol. 2. f. 59.

L'Orange, Favanne.

Cypræa aurora, Solander, MSS. Chemnitz.

Hab. Taheite, Pacific Islands.

The history of this rare and beautiful species has been so often described, that it only remains to call attention to an interesting example in the British Museum, not quite

arrived at maturity, in which the columella is of the same rich orange as the back, prior to the layer of white enamel being deposited.

Species 12. Fig. *a.* and *b.* (Mus. Cuming.)

CYPRÆA TIGRIS. *Cypr. testā ovatā, ventricosā, basi plano-concavā, dentibus majusculis; dorso albido aut flavescente, guttis nigricantibus majusculis, cœruleo nebulatis, promiscuè picto, basi niveā, immaculatā.*

THE TIGER COWRY. Shell ovate, ventricose, base flatly concave, teeth rather large; back whitish or yellowish, promiscuously painted with rather large blackish blue-clouded spots; base snowy white, unspotted.

Testa junior.

Testa junior albida, flammis ferrugineis undatis subdistantibus ornata.

Younger shell whitish, ornamented with rather distant zigzag rusty brown flames.

Testa juvenis.

Testa juvenis uniusmodi castanea, albido-flavicante interdum interrupta et fasciata.

Young shell uniform chesnut, sometimes interrupted and banded with pale yellow.

LINNÆUS, Syst. Nat. (12th edit.) p. 1176.

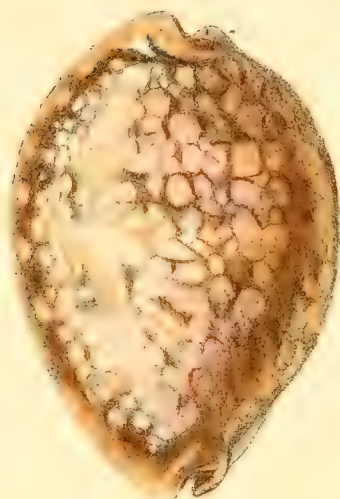
Hab. Eastern Seas.

Testa junior, *Cypræa flammea*, Gmelin.

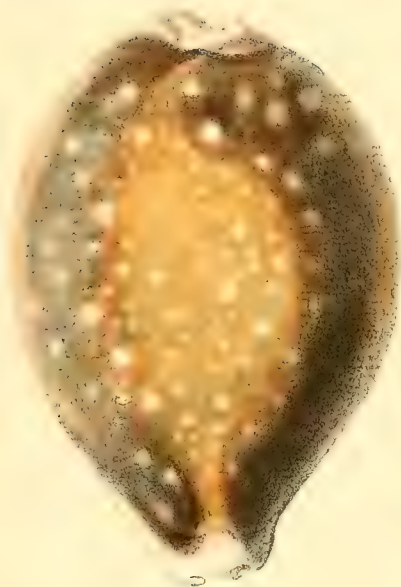
The progress of this shell exhibits a curious variety in the style of colouring:—first, it is a uniform chesnut bay, the colour then breaks up, as it were, into bands of close-set waved blotches of a richer hue, a coating of white is then superimposed, and upon that is deposited a series of rather distant zigzag flames, such as are represented at fig. *a.* The rich colouring of the first state is now, therefore, concealed, and nothing is seen but a few zigzag

flames upon a white ground; the teeth are forming in the mean time, and a few spots of colour make their appearance round the outer side. In the next state of the shell, a second layer of white enamel is superimposed, a thinner and more delicate stratum than the preceding, through which the zigzag flames may be seen of a milky hue; and, upon this surface a number of dark spots are deposited. These are again overspread by a third white coating, intermixed with numerous rich black and brown spots, showing, for the first time, a narrow dorsal hiatus, mostly edged with reddish brown with the first deposite of dark spots, thus overspread, of a blueish milky hue.

I cannot resist inserting the following interesting observations on the habits of this species by Mr. Broderip. “Mr. Samuel Stutchbury, who had an opportunity of examining many individuals of *C. tigris* at the Pearl Islands, informed me that these cowries lived there in very shallow water, and always under rolled masses of Madre-pore. They never were to be seen exposed to the sun’s rays. On lifting one of these masses, a Tiger Cowry was generally observed with its shell entirely covered by the large mantle which was mottled with dark colours, the intensity of which the animal seemed to have the power of changing; for the colour varied in the same light and in the same medium, after the manner of the spots on the Cephalopodous Mollusca, or, to use a more familiar instance, somewhat in the same way that the hues of a turkey-cock’s wattle vary. On touching the mantle, it was immediately withdrawn within the shell, which became exposed in all its brilliancy. So firmly did the soft parts adhere to the shell, that, in no instance, (and the experiment was often made) did Mr. Stutchbury succeed in extracting them by force, either during life, or before decomposition took place. He was obliged to let the animal die, and suffer the soft parts to decay, in order to remove them.”—*Zool. Journal*, vol. iv. p. 163.



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CYPRÆA.

PLATE V.

Species 13. (Mus. Cuming.)

CYPRÆA BRODERIPH. *Cypr. testā ovatā, ventricosā, crassiusculā, dentibus numerosis, conspicuis, columellaribus longiusculis, regularibus; dorso roseo et flavido-albicante obscure fasciato, reticulā irregulari aurantio-fuscescente maculisque niveis latera versus ornato, lateribus et extremitatibus fuscescentibus, basi fuscescente, roseo-aurantio tinctā; dentibus albidis.*

BRODERIP'S COWRY. Shell ovate, ventricose, rather thick, teeth numerous, rather long and regular; back obscurely banded with yellowish white and rose-pink, and ornamented with a pale orange-brown net-work, with snow-white spots towards the sides, sides and extremities drab-brown, base of the same colour tinged with a warm glow of rose-orange; teeth white.

GRAY, Descriptive Catalogue (inedit).

Sowerby, Conchological Illustrations, Cat. *Cypræadæ*, no. 20. f. 2.

Hab. Island of Madagascar (found on the reefs); Rev. W. V. Hennah.

Of this beautiful and very characteristic species only three specimens have yet been discovered, two, now before me, from the collections of Mr. Cuming and Miss Saul, and one in some private collection, I believe, in the United States. Although it partakes in some measure, of the characters of the *Cypræa vitellus* and *nivosa*, it is perfectly distinguished from both by its fine columellar teeth, delicate rose-pink and rose-orange colouring, and superincumbent deposit of brown net-work. As in most highly enamelled Cowries the base is radiated with fine hair-like scratches.

It is a beautiful species, and honours the name of a gentleman highly esteemed in the conchological world, and to whose princely zeal our national collection is indebted for the great treasures of the genus.

Species 14. (Mus. Saul.)

CYPRÆA VITELLUS. *Cypr. testā ovatā, ventricosā, crassā, anticè leviter attenuatā, dentibus fortiusculis, dorso fulvo-spadiceo, guttis niveis variæ magnitudinis adperso, lateribus olivaceo-fuscis, arenaceis, striatis; basi, extremitatibus, dentibus, interstitiisque roseo-albicantibus,*

THE LITTLE CALF COWRY. Shell ovate, ventricose, thick, anteriorly slightly attenuated, teeth rather strong, back fulvous bay colour, sprinkled with snow-white spots of various sizes, sides olive-brown, arenaceous, striated; base, extremities, teeth, and the interstices between them pinkish white.

Testa junior.

Testa junior olivaceo-cinerea, obscure fasciata, immaculata.

Younger shell olive-ash colour, obscurely banded, unspotted.

LINNÆUS, Syst. Nat. (12th edit.) p. 1176.

Hab. Eastern Seas.

This species is strongly characterized by the curious sand-like striæ with which the sides are coloured, and the miniature firmament of spots, of different degrees of magnitude, which adorn the whole of the dorsal surface.

Whether Linnæus named this shell from *vitellus*, a little calf, or *vitellus*, the yolk of an egg, I am unable to determine, for it resembles one as much as the other.

Species 15. (Mus. Cuming.)

CYPRÆA STERCORARIA. *Cypr. testā ovatā, subventricosā, anticè contractā, lateribus angulatis, basi concavo-depressā, aperturā sinuosā, anticè hiantē, columellæ concavitate anticā amplā, profundā; undique livido-olivaceā, dorso castaneo-fusco maculato et nebulato; dentibus albidis.*

THE SOILED COWRY. Shell ovate, rather ventricose, contracted anteriorly, sides angulated, base concavely depressed, aperture sinuous, gaping anteriorly, anterior concavity of the columella large, deep; livid olive colour throughout, back spotted and clouded with chesnut brown, teeth whitish.

Testa junior.

Testa junior cinereo-fusca, fasciis olivaceo-fuscis quinque senisve picta, immaculata.

Younger shell ashy brown, painted with five or six olive brown bands, unspotted.

LINNÆUS, Syst. Nat. (12th edit.) p. 1176.

Cypræa stercoraria and *rattus*, Lamarek.

Cypræa olivacea, gibba, and conspurcata, Gmelin.

Testa antiquata, *Cypræa cauteriata*, Chemnitz.

Testa junior, *Cypræa fasciata*, Chemnitz.

Hab. Persian Gulf; coast of Africa.

The sinuous character of the aperture, and the anterior concavity of the columella are curiously exaggerated in this species; its uniform olivaceous cast of colour is also peculiar. The younger shell has a kind of hump-like elevation on the back, and is of an ashy or greyish brown with five olive bands upon, and anterior to, the dorsal elevation, and one of more indistinct character round the spire.

Species 16. (Mus. Saul.)

CYPRÆA EXANTHEMA. *Cypr. testā elongato-ovatā, crassiusculā, extremitatibus subtruncatis, dorso fulvo-fusco, maculis albidis rotundis, quarum nonnullis, præcipuè ad latera, ocellatis, ornato; basi pallidè fulvā, dentibus castaneo-fuscis.*

THE MEASLED COWRY. Shell elongately ovate, rather thick, extremities slightly truncated, back fulvous brown, ornamented with round white spots, some of which, especially at the sides, are ocellated, base pale fulvous, teeth chesnut brown.

Testa junior.

Testa junior fasciis cœruleo-plumbeis ornata.

Younger shell ornamented with blueish lead colour.

LINNÆUS, Syst. Nat. (12th edit.) p. 1172.

Testa junior, *Cypræa zebra*, Linnæus.

Hab. West Indies; on the reefs.

The chief peculiarities of distinction between this and the *Cypræa cervus*, are its more elongated form, solid and heavier growth, more contracted aperture and, ocellated character of the spots.



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Species 17. (Mus. Cuming.)

CYPRÆA MELANOSTOMA. *Cypr. testā oblongo-ovatā, extremitatibus prominentibus, utrinquesubfoveolatis; dorso cœruleo-aut cinereo-fasciato, floccis niveis elevatiusculis adperso, extremitatibus basique lacteis, dentum columellarium interstitiis purpureo-nigricantibus.*

THE BLACK-MOUTH COWRY. Shell oblong-ovate, extremities prominent, indented on both sides; back blueish or ashy brown, very faintly banded, sprinkled with slightly elevated snow-like flakes, base and extremities milk-white, interstices of the columellar teeth purple-black.

LEATHES, MSS. Sowerby, Tankerville Cat. App. p. xxxi. and Zool. Journal, vol. 2. p. 495. pl. 18. f. 3. and 4. *Cypræacameleopardalis*, Gray; (Perryhaudrecognitus). *Hab.* Red Sea.

It is not easy to conceive any two shells with such an apparent resemblance as the *Cypræa melanostoma*, and *vitellus*, capable of differing more essentially on examination. In the former, the extremities are prominently up-turned, the white flakes are of a blueish enamel-like tinge and slightly raised, the interstices between the columellar teeth stained with purple-black, and there is no indication of those peculiar lateral sand-lines which constitute so striking a peculiarity in the latter. The younger shell of the *C. melanostoma* differs from the adult in being unspotted, in the base and extremities not being thickened, and in the absence of the purple-black colouring of the columellar grooves.

Since Mr. Sowerby described this species in the Tankerville Catalogue, under Mr. Leathes' manuscript name of *Cypræa melanostoma*, it has been published by one or two authors under that of *Cypræa cameleopardalis*, from its having been thus originally named by one Mr. Perry; the writings of this person have, however, been censured a mass of buffoonery wholly unworthy of credit. So much has been already said on this subject by Mr. Sowerby, (Zoological Journal vol. iv. p. 218.) that it only remains to state how fully I concur in the opinion there recorded. If every charlatan who sets himself up for a naturalist, with brush in one hand, and writing-tool in the other, is to be regarded as an authority on scientific matters; all the zoological sign-boards in the kingdom might be quoted as figures of reference. For my own part, I consider that the "Cameleopard of Perry" should no more enter the nomenclature of zoology, than the "Red Lion of Brentford."

Species 18. (Mus. Saul.)

CYPRÆA MAPPA. *Cypr. testā oblongo-ovatā, crassā, extremitatibus subobtusis, declicibus, dentibus numerosis, columellaribus hic illic bifurcatis, dorso pallidè violaceo-fuscescente, lineis rubido-fuscis hieroglyphicis longitu-*

dinalibus confertis consummatè picto; hiatus dorsali angusto, peculiariter ramoso, lateribus violaceo-fusco guttatis, basi violascente, maculā grandi violaceo-fuscā sinistrorsum ornatā; dentibus vividè crocato-rubris.

THE MAP COWRY. Shell oblong-ovate, thick, extremities rather obtuse, inclined downwards, teeth numerous, the columellar teeth here and there bifurcated, back violet brown, elaborately painted with close-set reddish brown lines of hieroglyphical character; dorsal opening narrow, peculiarly branched, sides dotted with violet brown, base tinged with violet, ornamented with a large violet brown blotch on the left side; teeth bright saffron-red.

Variety β.

Testa brevior, gibbosiuscula, extremitatibus basique sanguineo-tinctis, basi immaculatā, dentibus pallidè incarnatis. Shell shorter, more gibbous, extremities and base blood-red tinged, base unspotted, teeth pale flesh-colour.

Testa junior.

Testa junior violaceo-fuscescens, pallidè nebulata, lineis fulvo-fuscescentibus hieroglyphicis ad latus sinistrorsum picta. Younger shell clouded or mottled with pale violet brown, and painted on the left side with fulvous-brown hieroglyphical lines.

LINNÆUS, Syst. Nat. (12th edit.) p. 1173.

Hab. Island of Annaa, Pacific Ocean (found on the reefs); Cuming.

There is a peculiarity in the progressive arrangement of the colouring matter of this species which I believe has not been hitherto noticed; namely, that there are two layers of ornamental pattern, one over the other.

The ornamental character with which the dorsal surface of the Cowries is mostly painted, appears to be the last effort in the formation of the shell. The previous infusions of colour rarely exhibit anything more than a dull confusion of waves, clouds, or bands; no ornamental device appears until the shell is on the eve of maturity;—the beauty of the architecture is reserved for the final decoration of the building. In the *Cypræa mappa*, we have an exception to this order of arrangement; a layer of pale hieroglyphical painting, greatly resembling, except in colour, that of the *Cypræa Arabica*, is deposited by the animal on the left side chiefly, while yet in a very immature state of growth, and on arriving at maturity, another and richer layer is superimposed upon the former, which in most specimens may be faintly seen beneath it.

The two varieties of this species above noted are very distinct, especially in regard to colour; one has a violet base, bright saffron-red teeth, and a large dark blotch upon the left base; the other is of a warm hue with blood-red tinged base and extremities, no spot, and teeth of

faint flesh-colour. The curious ramifications of the dorsal line indicate corresponding jagged edges to the lobes of the mantle.

Species 19. (Mus. Saul.)

CYPRÆA CARNEOLA. *Cypr. testā oblongo-ovatā, crassā, extremitatibus subobtusis, dorso carneolo, fasciis quaternis quinisque saturatoribus ornato, basi lateribusque pallidè fulvis, lateribus plus minusve arenaceis, dentibus interstitiisque vividè violaceis.*

THE CARNELION COWRY. Shell oblong-ovate, thick, extremities rather obtuse, back pale flesh-colour, ornamented with four or five bands of a deeper flesh tint, base and sides pale fulvous, sides more or less arenaceous, teeth and interstices deep violet.

LINNÆUS, Syst. Nat. (12th edit.) p. 1174.

Hab. Isle of Annaa, Pacific Ocean, (on the reefs); Cuming.

This species is, perhaps, more variable in size than any other of the genus; there is no change of colour on the dorsal surface throughout its entire growth, but the arenaceous deposit round the sides, and the bright violet colouring of the teeth, both of which peculiarities are extremely characteristic, do not appear until the shell arrives at maturity.

Species 20. (Mus. Brit.)

CYPRÆA PRINCEPS. *Cypr. testā orbiculato-ovatā, tenuiculā, ventricosissimā, dorso valdè elevato, utrinque declivi; aperturā subangustā, sinuosā, dentibus numerosis, extremitatibus subretusis, basi plano-converā; dorso luteolo, roseo-purpurascēte, basem versus pallidiore, tincto, medio characteribus rha-coloreis undulatis profusè picto, maculā grandi saturatiore, characteribus perpaucis hieroglyphicis, utrinque nebulato; extremitatibus lineis fuscis tribus irregularibus, quarum medianā fortissimā, concentricè ornatis, extremitate posticā striis concentricis plurimis fuscescentibus subtilibus supra spiræ apicem occultam; lineā dorsali subcentrali, rectā, lateribus guttis cœruleis et fuscis ornatis, quarum nonnullis fortibus distinctis, nonnullis nebulatis indistinctis; dentibus niveis, per columellam pallidè rufo-fuscescentibus.*

THE PRINCE COWRY. Shell orbicularly ovate, rather thin, extremely ventricose, back considerably elevated, steep on each side, aperture rather narrow, sinuous, teeth numerous, extremities rather blunt, base flatly convex; back yellowish, tinged with rose-purple, fainter towards the base, profusely painted in the middle with waved rhubarb-colour characters, clouded on each side with a squarish spot of darker colour on

which there are a few dark hieroglyphical characters; extremities concentrically adorned with three irregular brown lines, of which the middle is the strongest, the posterior extremity having several finer light brown concentric striæ beyond the concealed spire; dorsal line straight, nearly central; sides ornamented with blue and brown spots of which some are strong and distinct, some clouded and indistinct; teeth snowy white, pale reddish brown across the columella.

GRAY, Zoological Journal. vol. 1. p. 75.

Cypræa Valentia, Perry (haud recognitus).

Hab. Persian Gulf.

Having already spoken of the exceeding value and rarity of this remarkable shell, in my introductory observations to the genus, it only remains to add a more detailed history of its specific character.

The *Cypræa princeps* presents an association of character of which we find no approximation in any other species. It is of a rather light thinnish structure, swelling out on both sides with peculiar rotundity and rising in the middle to a lofty obtuse hump forming a steep incline anteriorly and posteriorly to the extremities. (I now regret not having decided upon a lateral view of this shell; as it is impossible to convey an accurate notion of this dorsal hump-like elevation by its position in the accompanying figure, which was selected in order to obtain a more correct representation of its makings than has hitherto appeared.) The general tone of colour is a pale yellow at the top, changing into a purple-pink wash at the sides, and thence into white at the base. The middle is painted with a close-set profusion of small waved rhubarb-yellow characters, with a central straight dorsal line, and a large rhomboidal dark clouded blotch on each side the dorsal acclivity, the left of which is the more diffused. Both of these blotches are painted with strong hieroglyphical marks of a very decided character. Around the extremities are three irregular concentric brown lines a little raised, or apparently so, the middle of which is the strongest; and on the posterior end of the shell are from six to seven concentric faint brown striæ immediately above the three dark lines just spoken of. The teeth are rather small, numerous, and white, except on crossing the columella, where they are reddish-brown. The sides are white, marked with small scattered spots of which the uppermost are brown, partaking of the upper region of colour, and distinct, whilst those towards the base receive a blue-clouded appearance from the overflowing of the milk-white enamel of the base.

The only record we have of this shell's history is, that it was in "Old Humphrey's" collection under the name of "The Brindled Cowry of the Persian Gulf," and it remains in our national collection a curious exception to the favourite axiom of Linnæus,—"*Natura non facit saltum.*"



CYPRÆA.

PLATE VII.

Species 21. (Mus. Saul.)

CYPRÆA SPADICEA. *Cypr. testā ovato-oblongā, subpyriformi, anticē attenuatā, aperturā angustā, dentibus crassiusculis, brevibus; dorso spadiceo, latera versus ustulato-fusco nebulato, guttis nigricantibus seriatim undato-marginato, lateribus rosaceo-albis, obscurissimè nigroguttatis, dentibus basique albis.*

THE CHESNUT-BAY COWRY. Shell ovately oblong, somewhat pyriform, attenuated anteriorly, aperture narrow, teeth rather thick, short; back chesnut-bay, clouded towards the sides with burnt brown, edged with a waved row of confused blackish spots, sides pinkish white, showing very obscure dark spots, teeth and base white.

SWAINSON, Phil. Mag. vol. lxi. p. 370. Zool. Illus. pl. 182.
Hab. —?

This species may be recognised by its peculiar burnt-brown colouring, which looks at first sight as if it had been artificially obtained by the action of acid. It is still one of great rarity, in fine condition, and I have not seen it in any other state than the adult. The dorsal area of burnt-brown clouding is edged on both sides by a row of confused blackish spots; and I am inclined to think, that during the intermediate state of growth the right side is entirely tessellated with these spots, regular in size, and neatly equidistant from each other, on a burnt-brown ground; a faint indication of this style of colouring may be seen through the white coating of the sides, which has, in consequence, a dull pinky appearance.

Species 22. (Fig. a and b. Mus. Cuming.)

CYPRÆA LEUCOSTOMA. *Cypr. testā depresso-ovatā, crassā, basi turgidā, extremitatibus posterioribus incrassatis, sinistrā præcipuè, aperturā subangustā, columellā edentulā, labro externo anticē obsoletissimè dentato; dorso cinereo-fusco, maculā castaneā elongatā, lineā dorsali pallidā ramosā percurrente, medio picto; lateribus albidis, guttis numerosis cinereo-fuscis fulvo-nebulatis profusè aspersis, basi albā.*

THE WHITE-MOUTH COWRY. Shell depressly subovate, thick, swollen at the base, posterior extremities thickened, especially the left, aperture rather narrow, columella destitute of teeth, outer lip very faintly

toothed anteriorly; ashy brown, painted along the middle with an elongated chesnut blotch, through which runs a pale branched dorsal opening; sides whitish, profusely sprinkled with ash-brown fulvous-clouded spots, base white.

GASKOIN, Pro. Zool. Soc. 1845.

Cypræa mus. var. Sowerby, Conch. Illus. f. 157.

Hab. Mocha; Sowerby.

The *Cypræa leucostoma* has been very properly distinguished, by Mr. Gaskoin, from the *Cypræa mus*, on account of the following peculiarities. The base is white, the columella is entirely destitute of teeth, and only the faintest indication of teeth is to be found on the outer lip. The sides are more distinctly spotted, and the dorsal line has a peculiar branched character. Out of ten or a dozen examples of this shell which I have seen within the last few days, there is not the slightest modification of any of these features into those of the *Cypræa mus*. I have not seen the shell in an intermediate state of growth, but the columella mostly exhibits a portion of its colouring at that age;—a close series of concentric brown festoons upon a yellowish-white ground.

Species 23. (Mus. Brit.)

CYPRÆA LEUCODON. *Cypr. testā subpyriformi-ovatā, dorso gibboso, elevato, basi convexā, aperturā posticè sinuosā, extremitatibus prominentibus, leviter recurvis, dentibus utrinque fortibus, elongatis, interstitiis profundè sulcatis; dorso rufescente aut flavescens-fusco, guttis rotundis albidis subamplis hic illic asperso, basi pallidiore, striis subtilissimis transversè notatā; dentibus eburneis; hiatus dorsali latiusculo, ad dextrum latus approximante.*

THE WHITE-TOOTH COWRY. Shell somewhat pyriformly ovate, back gibbous, elevated, base convex, aperture sinuous posteriorly, extremities prominent, slightly recurved, teeth strong on both sides, elongated, interstices deeply grooved; back reddish or yellowish-brown, sprinkled here and there with rather large round white spots, base paler, marked transversely with fine striæ, teeth ivory white; dorsal hiatus rather broad, approaching the right side.

BRODERIP, Zool. Journal, vol. iv. p. 163. pl. 6.

Hab. —?

December 1845.

This is another species of Cowry which our national collection can alone boast of possessing. The dorsal surface, of which I have given a more characteristic view than has yet been published, is of a yellowish reddish-brown, sprinkled with rather large round white spots, clouded, two and two, one refracting upon the other, like floating particles of oil. The base is thickly crossed with fine stria-like scratches, and the teeth are developed with remarkable intensity,—an exaggeration, as it were, of those of the *Cypræa sulcidentata*. The posterior margin of the shell exhibits on the right side a number of wart-like protuberances; and there is a pale concentric mark over each extremity.

Species 24. (Fig. *a.* and *b.* Mus. Saul.)

CYPRÆA MUS. *Cypr. testā ovatā, lateribus gibbosiusculis, basi plano-depressā, aperturā subsinuosā, dentibus brevissimis, columellaribus plus minusve obsoletis, medianis præcipuè, extremitate posticā dextrā prominente; dorso interdum verrucis nonnullis posticè munito, cinereo-vel olivaceo-fusco marmorato, latera versus præcipuè, hiatu dorsali pallido, marginibus rufo-fuscescentibus, guttis deformibus aterrimo-fuscis, interdum in viciniā aspersis, utrinque irregulariter pictis, maculā intensā ad extremitatem posticā, basi cinereo-fuscā, dentibus atro-fuscis, columellā ustulato-fusco tinctā.*

THE MOUSE COWRY. Shell oval, sides rather gibbous, base rather flatly depressed, aperture a little sinuous, teeth very short, the columellar teeth more or less obsolete, especially the middle, the right posterior extremity obsolete; back sometimes furnished posteriorly with a few wart-like protuberances, olive-brown, marbled, especially towards the side, dorsal hiatus pale, edges faint reddish brown, irregularly painted on both sides with very black-brown variously shaped spots, sometimes sprinkled in the vicinity, and an intense blotch of the same colour at the posterior end, base olive ash-brown, teeth black-brown, columella stained with burnt brown.

Testa junior.

Testa junior ventricosissima, pallidè cinereo-fusca, longitudinaliter peculiariter undata, maculā atro-fuscā supra extremitatem posticā.

Younger shell very ventricose, pale ash-brown, longitudinally peculiarly waved, with a black brown blotch above the posterior extremity.

LINNÆUS, Syst. Nat. (12th edit.) p. 1176.

Hab. —?

It will be seen by the foregoing description how materially this shell varies from the *Cypræa leucostoma*, which might at first sight be easily mistaken for it. The base of the *Cypræa mus* is of an olive ash-brown colour without any appearance of spots, there are always a few short teeth in the columella, and the outer teeth are very much more defined; there is also a great peculiarity in the general colouring of the shell which is distributed into waves like a rippled cloud.

Species 25. (Mus. Cuming.)

CYPRÆA NIVOSA. *Cypr. testā oblongo-ovatā, crassiusculā, extremitatibus brevibus, subrecurvis, dentibus columellaribus subtilibus, dorso fulvo-fuscescente, floccis punctisque variæ magnitudinis promiscuè adperso, dentibus basique lutescente-albis, hiatu dorsali latiusculo, interdum confusè ramoso, ad latus dextrum approximante.*

THE SNOW-FLECKED COWRY. Shell oblong-ovate, rather thick, extremities short, a little recurved, columellar teeth fine; back pale fulvous-brown, promiscuously flecked with snow spots, and specks of various size, teeth and base yellowish white, dorsal hiatus rather wide, sometimes confusedly branched, approximating to the right side.

BRODERIP, Zool. Journal, v. 3. p. 84. pl. 4. f. 1.

Cypræa dama, Kiener (Perry haud recognitus.)

Hab. —?

An excellent species, and admirably figured in the Zoological Journal. From *Cypræa vitellus*, with which it might be confounded, it differs by its more oblong form, more irregular and confused assemblage of spots and specks, and entire absence of arenaceous striæ; the columellar teeth are also longer and finer, and the colour a peculiar fulvous bay. From *Cypræa melanostoma*, which is also destitute of arenaceous striæ, it differs materially in form, and the spots, which in that species are raised, are of a totally different colour and character.



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CYPRÆA.

PLATE VIII.

Species 26. (Mus. Saul.)

CYPRÆA PYRUM. *Cypr. testā pyriformi-ovatā, posticè umbilicatā, extremitate posticā dextrā subproductā, dentibus brevibus, subexilibus; dorso fulco-lutescente, obscure quadrifasciato, castaneo-fusco copiosè marmorato, basi, extremitatibus lateribusque aurantio-rufis, dentibus pallidis, interstitiis subrosaceis, lateribus interdum castaneo-fuscis, fusco suturatione obscure punctatis.*

THE PEAR COWRY. Shell pyriformly ovate, posteriorly umbilicated, right posterior extremity somewhat produced, teeth short, rather faint; back fulvous yellow, obscurely four-banded, copiously marbled with rich chesnut brown; base, extremities, and sides deep orange-red, teeth pale, interstices tinged with pink, sides sometimes chesnut brown, obscurely dotted with darker brown.

Testa junior.

Testa junior lutescens, incarnato-fuscescente quadrifasciata, luteo-fusco subtilissimè marmorata, basi lacteo-aurantiā.

Younger shell yellowish, crossed with four broad flesh-brown bands, very finely marbled with yellowish brown, base milky orange.

GMELIN, Syst. Nat. 3411.

Cypræa flavescens, Born.

Cypræa rufa, Lamarck.

Hab. African shores of the Mediterranean.

This is the most northern species of *Cypræa* with such a brilliant display of colouring; the base and sides are of a deep orange-red, and the back is richly marbled with chesnut brown upon a yellowish four-banded ground. The teeth are somewhat faintly developed, and do not make their appearance until the shell is on the eve of maturity.

Species 27. (Fig. a. and b. Mus. Cuming.)

CYPRÆA ARENOSA. *Cypr. testā orbiculari-ovatā, crassissimā, subdepressā, lateribus turgidis, aperturā angustā, extremitatibus retusis, basi convexā, dentibus minutis, numerosis, columellaribus subtilissimis elongatis, exterioribus brevibus; dorso cæruleo-cinereo, fasciis quaternis carneolo-fuscis ornato, lateribus cinereo-fuscis, supra arenaceo-striatis, basi eburneā.*

THE SANDY COWRY. Shell orbicularly ovate, very thick,

somewhat depressed, sides swollen, aperture narrow, extremities blunt, base convex, teeth minute, numerous, the columellar very fine and elongated, the outer short; back blueish ash-colour, ornamented with four carnelion-brown bands, sides ash-brown, arenaceously striated above, base ivory-white.

Testa junior.

Testa junior oblongo-ovata, fuscescens, fasciis quaternis carneolis cingulata.

Young shell oblong-ovate, pale brown, encircled with four carnelion bands.

GRAY, Zool. Journal, vol. 1. p. 148. pl. 7. and 12. f. 6.

Hab. Isle of Annaa, Pacific Ocean (found on the reefs); Cuming.

The plan of colouring in this species, and the two which follow, offers an exception to the general rule:—in the dorsal surface of the shell receiving no new ornamental distribution of colour on arriving at maturity. The calcifying energies of the mantle at an advanced stage of growth are exclusively directed, and with more than usual force, to the thickening of the sides, accompanied in the present species by a dull brown deposit of colour, throwing up a number of fine arenaceous striæ.

The banded layer of enamel in the *Cypræa arenosa*, *ventriculus*, and *sulcidentata*, is therefore analogous to the intermediate banded layer of most Cowries, and to the dorsal hiatus, of which the *Cypræa talpa*, *carneola*, and *pulchra* exhibit still more exaggerated modifications.

Species 28. (Mus. Cuming.)

CYPRÆA VENTRICULUS. *Cypr. testā ovatā, crassissimā, lateribus turgidis, subangulatis, extremitatibus retusis, basi subconcavo-depressā; dorso cæruleo aut livido-cinereo, fasciis quaternis carneolis ornato, lateribus nigricante-castaneis, supra rubidis, infra fumeo-albicantibus, striis subtilissimis copiosè exorientibus; basi albicante.*

THE VENTRICLE COWRY. Shell ovate, very thick, sides swollen, rather angulated, extremities blunted, base somewhat concavely depressed; back blueish or livid ash, ornamented with four carnelion bands, sides blackish chesnut, red above, smoky white beneath, with a number of very fine striæ rising; base whitish.

Testa junior.

Testa junior pallidè fulvescens, fasciis quaternis carneolis cingulata.

Younger shell pale fulvous, encircled with four carnelion bands.

LAMARCK, Ann. du mus. p. 452.

Cypræa achatina, Solander MSS. Dillwyn.

Cypræa carneola, Martyn.

Hab. Island of Annaa, Pacific Ocean (found on the reefs); Cuming.

Lamarck appears to have published this species under the above title before Dr. Solanders's manuscript name was recorded by Dillwyn. The shell is a truly solid mass of enamel, the sides of which are profusely striated with a number of extremely fine scratch-like striæ. The observations on the arrangement of the colours in the preceding species apply specially to this.

Species 29. (Fig. *a.* and *b.* Mus. Saul.)

CYPRÆA SULCIDENTATA. *Cypr. testā ovatā, crassissimā, lateribus turgidis, basi convexā, aperturā angustā, dentibus elongatis, valdè prominentibus, interstiis profundè excavatis; dorso cæruleo-cinereo, fasciis quaternis fuscescentibus subdistantibus ornato, lateribus granuloso-arenaceis, basi fumeo-albicante.*

THE GROOVED-TOOTHED COWRY. Shell ovate, very thick, sides swollen, convex at the base, aperture narrow, teeth elongated, interstices deeply excavated; base blueish ash-colour, ornamented with four rather distant pale brown bands, sides brown granulously arenaceous, base smoky-white.

GRAY, Zool. Journal, vol. 1. p. 148. f. 5.

Hab. South Seas.

The deeply excavated interstices of the teeth which are like those of the *Cypræa leucodon*, amply distinguish this species from the *Cypræa arenosa* to which it so closely approximates in general appearance; the colours are of a duller brown, and the base is of a dull smoky white. Another peculiarity by which it differs from that species is, that the sandy border round the sides does not rise in striæ but subsides in sediment-like granules.

Species 30. (Mus. Brit.)

CYPRÆA GUTTATA. *Cypr. testā, oblongo-ovatā, subpyriformi, lateribus margine recurvis, basi depressiusculā, aperturā sinuosā, dentibus parvis, in liris per basem continuatis, liris subirregularibus, rugiferis, hic illic bifurcatis, supra marginem et ad latera exorientibus; columellā lævi; dorso flavescens-fusco, guttis albis variz magnitudinis asperso, hiatu dorsali latiusculo, dentibus lirisque vividè crocato-rufis*

THE SPOTTED COWRY. Shell oblong-ovate, somewhat pyriform, sides recurved round the margin, base rather depressed, aperture sinuous, teeth small, continued across the base in ridges, ridges rather irregular, wrinkled, bifurcated here and there, passing over the margin and rising upon the sides; back yellowish-brown, sprinkled with white spots of various sizes, dorsal hiatus rather wide, teeth and ridges rich saffron-red.

GRAY, Zool. Journal, vol. 1. p. 511. pl. 18. f. 1 and 2.

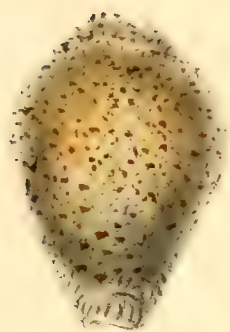
Hab. — ?

This very rare and remarkable shell is the largest species of that division of the genus to which the *Cypræa erosa* and *Lamarckii* belong. Its chief peculiarity consists in the teeth extending across the base in bright saffron-red ridges, each of which passes over the edge and a little way up the side, terminating in a point; they have a somewhat irregular wrinkled appearance, and are here and there forked. The white spots on the back are extremely variable in size, and, as in the *Cypræa vitellus*, have the appearance of a miniature firmament of stars of different degrees of magnitude. The back of the shell is not, however, so highly enamelled as in that species, nor are the spots of the same round definite character.

I have seen three specimens of the *Cypræa guttata*, one, from which the accompanying figure is taken, in the British Museum, one in the Leyden Museum, and one in Mr. Norris's collection, at Preston. There are also two which I have not had the pleasure of seeing; one lately received from Amsterdam, in the collection of Mr. Dennison of Liverpool, and another (I am told) in that of Mr. Johnston, of Berwick-on-Tweed. It appears to have been well-known to Martini, as it is figured by that author in the first volume of his "Conchylien Cabinet," Pl. 25. f. 252. and 253., published in 1769, under the title of "*Argus flavus tenuis ocellis lacteis.*"



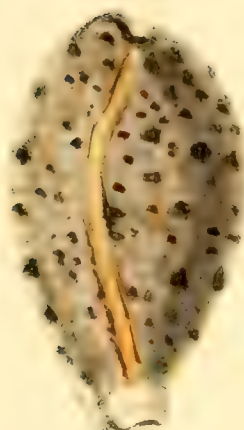
32a



32b



32c



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CYPRÆA.

PLATE IX.

Species 31. (Mus. Cuming.)

CYPRÆA TURDUS. *Cypr. testā depresso-ovatā, turgidā, basi subplanulatā, extremitatibus productis, aperturā latiusculā, anticè dilatatā, dentibus brevibus, subdistantibus; albidā, dorso guttis punctisque fulvis inæqualibus profusè asperso.*

THE THRUSH COWREY. Shell depressly ovate, swollen, rather flattened at the base, extremities produced, aperture rather wide, dilated anteriorly, teeth short, somewhat distant; whitish, profusely sprinkled with unequal small fulvous spots and dots.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. x. p. 520.
Hab. —?

The dots of this species on the anterior extremity, which is slightly crenulated, assume a dash-like character.

Species 32. (Mus. Cuming.)

CYPRÆA LURIDA. *Cypr. testā oblongo-ovatā, extremitatibus plano-productis, basi subdepressā, dentibus brevibus; dorso cinereo- aut cærulescente-olivaceo, subobscurè trifasciato, extremitatibus croceo-incarnatis, maculā conspicuā nigricante utrinque tinctis, basi albicante.*

THE LURID COWREY. Shell oblong-ovate, extremities flatly produced, base a little depressed, teeth short; back ash or blueish olive, somewhat obscurely three-banded, extremities saffron-flesh colour, stained on each side with a conspicuous blackish blotch; base whitish.

LINNÆUS, Syst. Nat. (12th edit.), p. 1175.

Hab. Adriatic and Mediterranean Seas.

There are two very distinct varieties of this well-known species, one a greenish-olive colour as figured, the other of a more blueish cast of colour, which is more elevated at the back, and more contracted at the extremities.

Species 33. (Mus. Gaskoin.)

CYPRÆA LYNX. *Cypr. testā oblongo-ovatā, crassā, extremitatibus retusis, aperturā subangustā, dentibus interioribus per columellam elongatis; dorso albido, fulvo et cærulescente profusè nebulato et guttato, maculis nigrimo-fuscis inæqualibus hic illic interspersis, hiatu dorsali angusto lineari, lateribus dentibus basique albicantibus, dentium interstitiis conspicuè sanguineo-rufis.*

THE LYNX COWREY. Shell oblong-ovate, thick, extremities blunt, aperture rather narrow, inner teeth extended across the columella; back whitish, profusely spotted and clouded with fulvous brown and blue, interspersed here and there with unequal dark blackish-brown spots, dorsal hiatus narrow, linear, sides teeth and base whitish, interstices between the teeth bright blood-red.

Testa junior.

Testa junior alba, fulvo profusè guttata.

Younger shell white, profusely spotted with yellowish brown.

LINNÆUS, Syst. Nat. (12th edit.), p. 1177.

Testa junior.

Cypræa vanelli, Linnaeus.

Cypræa squalina, Gmelin.

Hab. Ceylon, Mauritius, Pacific Islands, &c.

The first coat of colouring matter, in which there is no dorsal opening, is one of pale fulvous brown spots on a white ground, the second is blueish and of a more clouded character, and the third consists of a scattered deposite of blackish-brown spots, round, but of very unequal size. The teeth are mostly developed simultaneously with the first deposite of colour, and the bright red colouring of the interstices between the teeth begins to make its appearance at the same time.

Species 34. (Mus. Saul.)

CYPRÆA PULCHRA. *Cypr. testā cylindraco-oblongā, extremitatibus subcontractis, aperturā rectiusculā, angustā, dentibus parvis, numerosis, linearibus, subobsoletis, columellā lævigatā, concavitate subamplā, lateribus basi-que rotundatis; dorso olivaceo, subobscurè trifasciato, extremitatibus maculā conspicuā nigerrimo-fuscā utrinque tinctis, basi pallidissimè olivaceo-rubidā, dentibus lacco-fuscescentibus, interioribus medianis interdum bifurcatis, per basem partim fluentibus.*

THE BEAUTIFUL COWREY. Shell cylindrically oblong, extremities a little contracted, aperture rather straight, narrow, teeth small, numerous, linear, somewhat obsolete, columella smooth, with a rather large concavity, sides and base rounded; back olive, rather obscurely three-banded, extremities stained on each

side with a rich blackish-brown blotch, base with a warm ruddy olive tinge, teeth lake-brown, inner middle teeth sometimes bifurcated, flowing partially over the base.

GRAY, Zool. Journal, vol. i. p. 143.

Hab. Red Sea.

Although there is so close an approximation between the painting of the back of this species and the *Cypræa lurida*, they are eminently distinct at the base. The teeth of the *Cypræa pulchra* are of a curious half-obsolete character, and peculiarly coloured, and the middle of the inner row are extended in lines a little way over the base, which just at that point has a slight concave depression.

The name *pulchella*, originally given to this species by Mr. Gray, at page 143 of the 'Zoological Journal,' vol. i. having been pre-occupied by Mr. Swainson, it was altered to *pulchra* at page 379 of the same volume.

Species 35. (Mus. Cuming.)

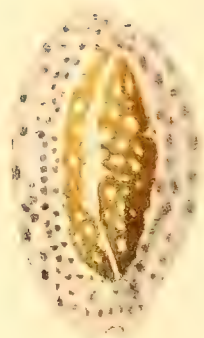
CYPRÆA EBUENA. *Cypr. testâ depresso-ovatâ, turgidâ, anticè contractâ, marginibus subobscurè foveolatis, aperturâ latiusculâ, anticè dilatatâ, dentibus brevibus, fortibus, subdistantibus; extus undique eburneâ, intus fulvo-fuscescente.*

THE IVORY COWREY. Shell depressly ovate, swollen, contracted anteriorly, margins somewhat obscurely pitted, aperture rather wide, dilated anteriorly, teeth short; strong, rather distant; outside ivory-white, inside fulvous brown.

BARNES, Annals Lyceum Nat. Hist., New York, vol. i. p. 133. pl. 9. f. 2.

Hab. Philippine Islands; Cuming.

This shell has so much the form of the *Cypræa Lamareckii* that it has been regarded as a white variety of that species. It is, however, constantly distinct, a pure highly polished ivory white shell, fulvous brown within.



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CYPRÆA.

PLATE X.

Species 36. (Mus. Cuming.)

CYPRÆA MILIARIS. *Cypr. testā oblongo-ovatā, anticē attenuatā, extremitatibus productis, subreflexis, lateribus foveolatis; dorso citrino-flavescente, ocellis albis profusē asperso, lateribus basique albis.*

THE MILLET COWREY. Shell oblong-ovate, attenuated anteriorly, extremities produced, a little reflexed, sides pitted; back citron-yellow, profusely sprinkled with white eyes of various sizes, sides and base white.

GMELIN, Syst. Nat. p. 3420.

Hab. Japan (under stones); Dr. Siebald.

Notwithstanding what has been said of this species by M. Deshayes, I am inclined to think with M. Kiener that it is really the *C. miliaris* of Gmelin; and that the following, universally regarded by collectors as *C. Lamarckii*, is distinct from it.

Species 37. (Mus. Gaskoin.)

CYPRÆA LAMARCKII. *Cypr. testā ovatā, ventricosā, extremitatibus subobtusoproductis, reflexis, utrinque foveolatis; dentibus brevibus, fortibus, subdistantibus; dorso aurantio-flavescente, ocellis albis, quorum nonnullis pupillatis, profusē asperso, lateribus punctis, extremitatibus lineis aurantio-castaneis, notatis, basi albi.*

LAMARCK'S COWREY. Shell ovate, ventricose, extremities somewhat obtusely produced, reflected, pitted on both sides; teeth short, strong, rather distant; back orange-yellow, profusely sprinkled with white eyes, some of which are pupilled, sides marked with orange-brown spots, extremities with lines, base white.

GRAY, Zool. Journal, vol. 1. p. 506.

Hab. Mozambique (under stones); W. V. Hennah.

The growth of this species, in which the former is included by Mr. Gray as a variety, seems to differ constantly in being less obese, whilst the extremities are more produced and the outer teeth more in number. The difference in the colouring is most conspicuous; the sides and extremities are dashed and dotted with orange-brown, whilst the ground colour of the back is darker, and the eyes more or less pupilled.

Species 38. (Mus. Cuming.)

CYPRÆA CRUENTA. *Cypr. testā oblongo-ovatā, extremita-*

tibus subrectis, lateribus plus minusve incrassatis, dentibus fortibus, subelongatis; albidā, dorso lutescente, fusco marmorato, lateribus guttis inæqualibus purpureolaccis ornatis, dentium interstitiis crocato-cocceis.

THE BLOOD-SPOT COWREY. Shell oblong-ovate, extremities rather blunt, sides more or less thickened, teeth strong, rather elongated; whitish, back marbled with yellowish brown, sides ornamented with unequal purple-lake spots, interstices between the teeth saffron-scarlet.

GMELIN, Syst. Nat. p. 3420 (?).

Cypræa variolaria, Lamarck.

Hab. — ?

Although M. Deshayes urges the propriety of following Lamarck's name of this species on account of its doubtful identity with the description published by Gmelin, he does not show that description to refer to anything else. Mr. Dillwyn, Gray, Sowerby and all who have written upon the genus in this country have united in referring the species under consideration to the *Cypræa cruenta* of Gmelin.

Species 39. (Fig. a. and b. Mus. Saul. Fig. c. Mus. Cuming.)

CYPRÆA ONYX. *Cypr. testā ovato-pyriformi, posticē umbilicatā, aperturā latiusculā; dorso albicante, zonis binis obscuris, extremitatibus, basi, lateribusque aterrimis, aurantio-fusco supra marginatis, dentibus aterrimis.*

THE ONYX COWREY. Shell ovately pyriform, umbilicated posteriorly, aperture rather wide; back whitish, with two obscure zones, extremities base and sides jet black, edged above with orange-brown, teeth jet black.

Variety β (Fig. 39 a.)

Testa undique castaneo-fusca, extremitatibus basi lateribusque saturatioribus, dentibus crocato-rubris.

Shell chesnut-brown throughout; extremities, base, and sides the deeper colour, teeth saffron red.

Variety γ. (Fig. 39 b.)

Testa undique aurantio-lactea, extremitatibus basi lateribusque saturatioribus.

Shell of an orange cream-colour throughout; extremities, base, and sides the darker.

LINNÆUS, Syst. Nat. (12th edit.), p. 1177.

Cypræa adusta, Lamarck.

Hab. San Diego, California.

This species presents three remarkably distinct varieties all of which, represented in the accompanying plate, are well known to collectors.

Species 40. (Mus. Saul.)

CYPRÆA SOWERBYI. *Cypr. testâ oblongo-ovetâ, depressiusculâ, subumbilicatâ, dorso cærulescente, obscurissimè quadrifasciata, maculis inæqualibus castaneo-fuscis creberrimè et confusè picto, extremitatibus basi lateribusque aurantio-fuscis, lateribus et extremitatibus nigro-punctatis dentibus albidis.*

SOWERBY'S COWREY. Shell oblong-ovate, rather depressed, slightly umbilicated, back blueish, very obscurely four-banded, very closely and confusedly painted with unequal chesnut-brown spots, extremities, base, and sides orange-tinged brown, sides and extremities dotted with black, teeth whitish.

KIENER, Icon. coq. viv. p. 38. pl. 7. f. 3.

Cypræa zonata, Gray, (not of Chemnitz).

Eadem, Cypræa ferruginosa, Kiener.

Hab. Mouth of the Gambia, Africa.

The *Cypræa Sowerbyi* has been confounded with another very distinct species, *Cypræa zonata* (for which see Plate XIII. Fig. 58.), and great confusion has resulted from the different interpretation put upon a very obscure figure published under that name by Chemnitz (Conch. Cab. vol. x. pl. 145. f. 1342), and copied in an absurdly embellished style into Wood's 'Index Testaceologicus'.

After a careful examination of figures, and the comparison of an extensive series of specimens I am inclined to think that the shell above described, and of which the accompanying figure is a rich characteristic example, was correctly introduced for the first time by Mr. Gray in the Zoological Journal, vol. iv. pl. 7. f. 8, as a new shell, but the name intended to distinguish it, *maculata*, was not employed, because the author subsequently determined to refer it to the *Cypræa zonata* of Chemnitz; and, curious enough, the word *maculata* was at about the same period (September 1824) used by Mr. Barnes in the 'Ann. Lyc. Nat. Hist. New York,' in reference to a shell, which, though

only figured in outline, is clearly a *C. reticulata*. We have, however, another extremely variable species of a shorter and more pyriform shape (vide *Cypræa zonata*, pl. 13. f. 58.), of which the figure above alluded to in Chemnitz is, in my opinion, either an uncoated, or immature specimen.

The following history may assist in the determination of these species, and, I wish I might say, put an end to the confusion attending them.

In the year 1788, before the different phases of colour which the Cowries exhibit at different periods of growth were fully understood, Chemnitz (Conch. Cab. vol. x. pl. 145. f. 1342.), published the figure of an African species in an incomplete state, showing the zones of lunar spots ("zonis maculis lunaribus") characteristic of an intermediate stage of growth. Lamarck in 1822 confirmed the propriety of regarding this shell as new, by the discovery of an adult specimen of the same, not otherwise described ("mais parmi celles du Muséum se trouve un individu complet"); but his testimony not being accompanied by any figure it is difficult to say with which of the two species (Sp. 40, or Sp. 48, of the present monograph), he had in his own mind identified it. Mr. Gray in 1824 published a figure of the former of these (and I think correctly), as a new species, with a name which he abandoned in the text, referring it to Chemnitz's *Cypræa zonata*; and subsequently to that, as if desirous of returning to the opinion which I now hope to maintain, inserted a note to the following effect; "The reference to Chemnitz is doubtful," (Zool. Journ. vol. iv. p. 81.), Mr. Sowerby follows Mr. Gray in referring this species to the *C. zonata* without allusion to the doubt expressed in the note above alluded to; and no figure appeared of the true *Cypræa zonata* (such at least as I hold to be the true one), until M. Kiener figured both species under the same name (Icon. Coq. viv. pl. 7. f. 3. and pl. 48. f. 1.). After the publication of these figures he appears to have discovered their specific difference, and in the text distinguished that under consideration by the new name of *C. Sowerbyi*. Unfortunately, however, M. Kiener did not stop here; for an inferior example of the very same shell is reproduced in a subsequent plate as a new species under the title of *Cypræa ferruginosa*.

Had it not been for the misapplication of the word *maculata* by Barnes, I should certainly have adopted it, as having been proposed, though not adopted by Mr. Gray.



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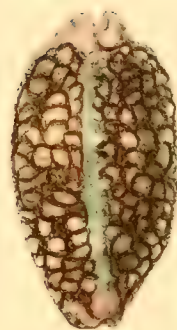
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CYPRÆA.

PLATE XI.

Species 41. (Mus. Cuming.)

CYPRÆA REEVEI. *Cypr. testā ovatā, tenui, ventricosā, spiræ apice subprominente, dentibus parvis tenuibus numerosis, per columellam, præcipuè concavitatem anticam, subconspicuis; dorso flavicante- aut lavendulofusco, obscure quadrifasciato, basi albidā, spiræ apice extremitatibusque roseis.*

REEVE'S COWREY. Shell ovate, thin, ventricose, apex of the spire rather prominent, teeth small, thin, numerous, rather conspicuous across the columella; back yellowish- or lavender-brown, obscurely four-banded, base whitish, extremities and apex of the spire pink.

GRAY; Sowerby, Cat. Cypræadæ, Conch. Illus. no. 15.f. 52.
Hab. Garden Island, mouth of the Swan River.

The back of this shell in a fine state of preservation is of a blueish lavender colour; and in this and the delicate pink colouring of the extremities the species is peculiarly characteristic.

Species 42. (Mus. Saul.)

CYPRÆA PULCHELLA. *Cypr. testā eleganter pyriformi, antice contractā et productā, dentibus elongatis, interioribus in liris basem percurrentibus; albidā, dorso fulvo minutissimè punctato, maculis fulvis semilunaribus bifasciato, lateribus guttis circularibus nigricante-fuscis irregulariter aspersis, dentibus lirisque rubidis.*

THE PRETTY COWREY. Shell elegantly pear-shaped, anteriorly contracted and produced, teeth elongated, the inner teeth running over the base in ridges; whitish, back minutely dotted with fulvous specks, with two bands of semilunar blotches, sides irregularly sprinkled with round blackish brown spots, teeth and ridges dark red.

SWAINSON, Exotic Conch. p. 25. pl. 35.

Hab. China.

The colouring of the back of this species is exceedingly variable, being sometimes banded with semilunar spots as in the specimen here figured, sometimes ornamented with a large irregular splash of chesnut-brown. It is remarkable for the novel and characteristic extension of the teeth.

Species 43. (Mus. Saul.)

CYPRÆA EROSA. *Cypr. testā ovatā, plus minusve depresso-*

planā, lateribus incrassatis, margine circa extremitate reflexo, foveolato et crenato, dentibus fortibus, exterioribus basem interdum percurrentibus; dorso citrino-fulco, punctis minutis albis profusè notato, guttis fuscescentibus obscuris asperso, lateribus albis, maculā quadratā fusco-nigricante in medio tinctis, castaneo-fusco lineatis et punctatis.

THE ERODED COWRY. Shell ovate, more or less depressly flattened, sides thickened, edge reflected, pitted and crenated, teeth strong, outer teeth sometimes running across the base; back citron-fulvous, profusely marked with minute white specks, and sprinkled with obscure brownish ones, sides white, stained in the middle with a square brownish black spot lineated and dotted with chesnut brown.

LINNÆUS, Syst. Nat. (12th edit.), p. 1179.

Hab. Ceylon, Mauritius, &c.

An abundant and extremely variable species of which the specimen here figured may be regarded as the type.

Species 44. (Mus. Cuming.)

CYPRÆA CAPUT-SERPENTIS. *Cypr. testā subquadrato-ovatā, depresso-planā, crassā, solidā, dorso subacuminato, dentibus conspicuis, subelongatis; nigricante-fuscā, dorso guttis niveis circularibus inæqualibus asperso, extremitatibus albicantibus, dentibus et aperturæ fauce funeo-albidis.*

THE SNAKE'S-HEAD COWREY. Shell somewhat squarely ovate, depressly flat, thick, solid, back a little acuminate, teeth conspicuous, rather elongated; blackish brown, back sprinkled with unequal round snow-white specks, extremities whitish, teeth and aperture smoky-white.

Testa junior.

Testa junior cinereo-cærulescens fasciā unicā fuscā latiusculā centrali.

Younger shell ashy-blue, with a single rather broad central band.

LINNÆUS, Syst. Nat. (12th edit.), p. 1175.

Hab. Taheite, Pacific Ocean (on the reefs); Cuming.

I take especial notice of the younger state of this well-known species on account of the great difference in its colour and appearance.

December 1845.

Species 45. (Mus. Cuming.)

CYPRÆA SCURRA. *Cypr. testā cylindraceo-oblongā, extremitatibus declivibus, subretusis, aperturā angustā, dentibus tenuibus numerosis, columellæ concavitate subamplā; dorso cinereo-cærulescente, obscure quadrifasciato, reticulā fuscā gracili latiusculā oblecto, hiatu lineari, lateribus basique flavicante-fuscis, guttis fumeo-nigricantibus aspersis, dentibus fusco-rubidis.*

THE JESTER COWREY. Shell cylindrically oblong, extremities steep, rather blunt, aperture narrow, teeth fine, numerous, concavity of the columella rather large; back ashy blue, obscurely four-banded, covered over with rather open slender net-work of brown, with a linear hiatus, sides and base yellowish-brown, sprinkled with smoky black spots, teeth brownish red.

CHEMNITZ, Conch. Cab. vol. x. p. 103. pl. 144. f. 1338. Eadem. *Cypræa Indica* Gmelin.

Hab. Isle of Annaa, Pacific Ocean (on the reefs); Cuming.

Distinguished from any varieties of the *C. Arabica*, to which it is in most respects allied, by its straight cylindrical form.

Species 46. (Mus. Saul.)

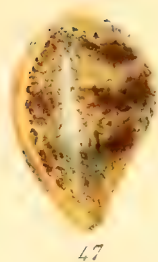
CYPRÆA CAURICA. *Cypr. testā ovatā, vel oblongo-ovatā, plus minusve depressā, lateribus plerumque incrassatis, dentibus fortibus, basem utrinque percurrentibus; dorso albido, punctis minutissimis flavicante-fuscis confusè et creberrimè picto, lateribus fulvo-albidis, guttis nigerimis conspicuis hic illic ornatis, basi subaurantio-fulvis, dentibus albidis.*

THE THICK-EDGED COWREY. Shell ovate, or oblong-ovate, more or less depressed, sides generally thickened, teeth strong, running partially over the base on each side; back whitish, confusedly and very closely painted with minute yellowish brown specks, sides fulvous white ornamented here and there with very dark conspicuous spots, base orange-tinged fulvous, teeth whitish.

LINNÆUS, Syst. Nat. (12th edit.), p. 1179.

Hab. Eastern Seas.

This species is most abundant, varying from long and rounded forms with thin sides, to short and depressed with thickened sides.



Species 47. (Mus. Cuming.)

CYPRÆA PHYSIS. *Cypr. testā subpyriformi, tenui, inflatā, aperturā latiusculā, dentibus tenuibus minutis, interioribus ferè obsoletis; dorso cærulescente, zonis duabus fuscescentibus ornato, flavescente-fusco confusè picto, lateribus et extremitatibus fulvo-aurantiis, basi albidā.*

THE SWOLLEN COWREY. Shell somewhat pyriform, thin, inflated, aperture rather broad, teeth fine minute, inner teeth almost obsolete; back blueish, ornamented with two light brown zones, yellowish, confusedly painted with yellowish-brown dashes, sides and extremities fulvous orange, base whitish.

BROCCHI (in ætate fossili), *Conch. Foss. Subap.* vol. ii. p. 284. pl. 2. f. 3.

Cypræa achatidea, Sowerby.

Cypræa Grayi, Kiener.

Hab. Sicily (found under stones); Capt. Mott.

A species comparatively new to collectors of recent shells, which M. Deshayes first identified with one that has been known for some time in a fossil state. It is of light inflated growth, with very fine teeth, the inner row of which is almost obsolete, the sides and extremities are fulvous orange, and the back is profusely splashed with yellowish brown.

Species 48. (Mus. Saul.)

CYPRÆA SUBVIRIDIS. *Cypr. testā ovatā, turgidā, subpyriformi, extremitatibus leviter productis, dentibus brevibus, fortibus, subdistantibus, interioribus posterioribus plus minusve obsoletis; dorso subviridis obscure latifasciato, punctis pallidis minutissimis lentiginoso, maculā peramplā castaneo-fuscā picto, dentibus basi lateralibusque subviridescente-albis, extremitatibus incarnato-fuscescentibus.*

THE GREENISH COWREY. Shell ovate, turgid, somewhat pyriform, extremities slightly produced, teeth short, strong, rather distant, the inner posterior teeth more or less obsolete; back greenish, obscurely broadly banded, painted with a very large chestnut-brown blotch, and freckled with minute pale specks; teeth base and sides greenish white, extremities flesh-tinged brown.

REEVE, (mendā typographicā Lake), *Pro. Zool. Soc.*, 1835. *Cypræa erronea* var., Sowerby, *Conch. Illus.*

Hab. Dupuch's Island, North west coast of Australia (found under stones at low water); Dring R. N.

This is the first shell I ever ventured, as a youth, to describe; like most collectors my attention was first at-

tracted by the Cowries, and the specimen which struck me as being specifically distinct from any other that I had seen is now in the collection of Mr. Cuming. The species has been entirely disregarded by naturalists; one noticing it as a variety of *C. erronea*, another omitting mention of it altogether. M. Kiener has certainly adopted the species, but as his figure is copied from Mr. Sowerby's, and his comparison with the *C. physis* is one of figures only, it cannot be estimated as a record of opinion.

Several specimens of the *Cypræa subviridis* have fortunately arrived from the locality above mentioned within the last twelvemonth, and the species is now universally esteemed by collectors in this country as one totally distinct from any hitherto known.

Species 49. (Mus. Gaskoin.)

CYPRÆA LENTIGINOSA. *Cypr. testā oblongo-ovatā, extremitatibus subproductis, dentibus magnis, subdistantibus; dorso cærulescente-albo maculis undatis obscure trifasciato, punctis minutis fuscescentibus undique lentiginoso, extremitatibus nigricante-fuscis, lateribus guttis nigricante-fuscis aspersis, basi albidā.*

THE FRECKLED COWREY. Shell oblong-ovate, extremities a little produced, teeth large, somewhat distant; back blueish-white, with three obscure bands of waved blotches, freckled over with small light brown specks; extremities blackish-brown, sides sprinkled with blackish-brown spots; base whitish.

GRAY, *Zool. Journal*, vol. i. p. 489. pl. 7 and 12. f. 1.

Hab. Ceylon.

Although a shell of great rarity there are several specimens in our different collections; the one here figured from the cabinet of J. S. Gaskoin, Esq. which is by far the finest I have seen, is already well known to the public by the figures of Mr. Sowerby and M. Kiener.

Species 50. (Mus. Saul.)

CYPRÆA WALKERI. *Cypr. testā oblongo-ovatā, depressiusculā, extremitatibus subretusis, dentibus parvis, tenuibus, numerosis, præcipuè interioribus; dorso cæruleo-albicante, trifasciato, fasciis latissimis fuscis, centrali saturatiore, in juniore undato-maculatis, punctis minutissimis flavido-fuscis undique lentiginoso; lateribus subflavis, guttis nigro-fuscis sparsim notatis, dentium interstitiis basique purpureo-violaceis.*

WALKER'S COWREY. Shell oblong-ovate, rather depressed, extremities somewhat blunt, teeth small, fine,

numerous, especially the inner; back blueish-white, three-banded, bands unusually broad, brown, central band darker than the others, marked in the younger shell with waved spots, freckled throughout with minute yellowish-brown specks; sides yellowish, marked here and there with round blackish brown spots; base and interstices between the teeth purple-violet.

GRAY, Sowerby Conch. Illus. Cat. Cypræadæ, no. 70. f. 22.*

Hab. New Holland.

An extremely well-defined species named by Mr. Gray after a zealous and intelligent collector of shells, now no more, to whom I am indebted with many kind remembrances for my first introduction to conchological pursuits.

Species 51. (Mus. Cuming.)

CYPRÆA ISABELLA. *Cypr. testā cylindraceo-oblongā, extremitatibus declivibus, retusis, aperturā angustā, dentibus tenuissimis numerosis, dorso cinereo aut cinereo-fulvo, obscurè trifasciato, punctis lineisque interruptis atris, longitudinaliter plus minusve notato; extremitatibus crocato-rubris, basi niveā.*

THE FAWN-COLOURED COWREY. Shell cylindrically oblong, extremities steep, blunt, aperture narrow, teeth very fine and numerous; back ashy or ashy fulvous, obscurely three-banded, more or less marked longitudinally with inky black dots and dashes, extremities saffron-red, base snowy white.

LINNÆUS, Syst. Nat. (12th edit.) p. 1177.

Eadem, *Cypræa controversa*, Gray.

Hab. Mauritius.

A well-known species of the same oblong cylindrical form as the *C. scurra*.

Species 52. (Mus. Gaskoin.)

CYPRÆA PYRIFORMIS. *Cypr. testā pyriformi, tenuiculā, subumbilicatā, extremitatibus productis, præcipuè anticā, dentibus subirregularibus præcipuè interioribus, basi anticè depressiusculā; dorso subviridi, fasciā centrali interruptā fuscescente, punctis minutissimis fulvo-fuscis undique lentiginoso, lateribus albidis, guttis fulvo-fuscescentibus notatis, basi albidā, dentibus interioribus rubidis.*

THE PEAR-SHAPED COWREY. Shell pear-shaped, rather thin, a little umbilicated, extremities produced, the anterior especially, teeth somewhat irregular, particularly the interior, base rather depressed anteriorly;

back greenish, with a central interrupted pale brown band, freckled throughout with very minute fulvous brown dots, sides whitish, marked with fulvous brown spots, base whitish, inner teeth red.

GRAY, Zool. Journal, vol. 1. p. 371.

Hab. Ceylon.

Having two magnificent specimens of this very rare species before me from the collections of Mr. Gaskoin and Miss Saul, I am enabled to fill up the characters that were unwillingly omitted by Mr. Gray at the time of its introduction. The back is of a delicate sea-green, freckled with very minute yellowish brown specks, having a broad interrupted band of the same colour across the centre. The teeth are deep red, and of the same remarkable character, on a small scale, as those of the *C. pulchella*. M. Kiener's figure gives a most inadequate idea of the species, being a wretched copy of a rather indifferent figure in Sowerby's 'Conchological Illustrations'.

Species 53. (Mus. Saul.)

CYPRÆA TESSELLATA. *Cypr. testā crassissimā, solidā, subquadrato-ovatā, lateribus incrassatis, dorso paululum acuminato, extremitatibus retusis, anticā callositate subobscurā munitā, aperturā angustā, dentibus parvis, gracilibus; dorso ferruginoso-cinereo, trifasciato, fasciis latissimis, lateribus maculis quadratis fuscis et albis tessellatis, maculis duabus superioribus ad utrumque latus vivide nigerrimo-castaneis, callositate albā, basi fusco alboque tessellatim variegatā, dentibus aurantio-fuscis.*

THE TESSELLATED COWREY. Shell very thick and solid, somewhat squarely ovate, sides thickened, back a little acuminate, extremities blunt, the anterior furnished with a somewhat obscure callosity, aperture narrow, teeth small, slender, back ferruginous ash-colour, three-banded, bands very broad, sides tessellated with square brown and white spots, the two upper spots on both sides very dark bright chesnut, callosity white, base tessellately variegated with brown and white, teeth orange-brown.

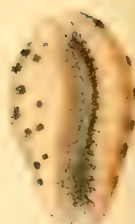
SWAINSON, Zool. Illustrations, 1st Series, vol. ii. pl. 3.

Hab. New Zealand.

This species, like the preceding, has been but imperfectly described hitherto for want of a specimen in adequate condition. The shell here figured from the collection of Miss Saul is in the finest state imaginable, and quite a gem to look upon.



54



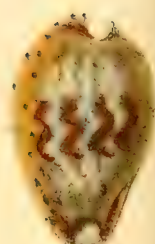
55^b



55^a



56



58



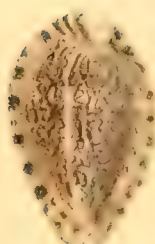
57



59



60^b



60^a



61

CYPRÆA.

PLATE XIII.

Species 54. (Mus. Saul.)

CYPRÆA PALLIDA. *Cypr. testâ ovatâ, subpyriformi, turgidâ, dentibus subgrandibus; dorso viridescens-tramineo, fulvo-fusco minutissimè lentiginoso, lateribus fusco sparsim guttatis, basi albicante.*

THE PALE COWREY. Shell ovate, somewhat pear-shaped, swollen, teeth rather large; back greenish straw-colour, very minutely freckled with fulvous brown, sides spotted here and there with brown, base whitish.

GRAY, Zool. Journal, vol. 1. p. 387.

Hab. —?

The *C. pallida* approximates rather closely to the *C. punctulata*, but is perfectly distinct on examination; it is of a more pear-shaped form, and less thickened, the tone of colour always paler, whilst the inner teeth do not extend across the columella, which wants the anterior concavity.

Species 55. (Mus. Saul.)

CYPRÆA XANTHODON. *Cypr. testâ oblongo-ovatâ, anticè attenuatâ, basi subdepressâ, extremitatibus leviter productis, lateribus subincrassatis, dentibus brevibus, interioribus superioribus subobsoletis, columellâ anticè medio sulcatâ; dorso cæruleo-viridescens, obscurè trifasciato, punctis minutis fulvo-olivaceis undique lentiginoso, lateribus flavicantibus, guttis nigerrimo-fuscis conspicuis ornatis, dentibus basique fulvo-flavicantibus.*

THE YELLOW-TOOTH COWREY. Shell oblong-ovate, attenuated anteriorly, base a little depressed, extremities slightly produced, sides rather thickened, teeth short, the inner upper teeth somewhat obsolete, columella grooved down the middle anteriorly; back blueish green, obscurely three-banded, freckled throughout with minute fulvous orange specks, sides yellowish, ornamented with conspicuous blackish-brown spots, teeth and base fulvous yellow.

GRAY; Sowerby, Conch. Illus. Cat. Cypræadæ no. 88. f. 18.

Hab. —?

Through the kindness of Miss Saul, I am enabled to figure the only adult specimen of this Cowrey that has been seen in fine condition; Mr. Gaskoin has a well-preserved specimen in an intermediate stage of growth, and besides these I have seen none but what are decorticated.

Species 56. (Mus. Cuming.)

CYPRÆA ERRONES. *Cypr. testâ oblongo-ovali, dentibus brevibus; dorso cæruleo-viridescens, punctis fulvis minutissimis lentiginoso, maculâ castaneâ grandi centrali plerumque picto, lateribus basique flavescens immaculatis.*

THE ERRONEUS COWREY. Shell oblong-oval, teeth short; back blueish green, freckled with very minute fulvous specks, generally painted with a large chesnut blotch in the centre.

LINNEUS, Syst. Nat. (10th edit.), p. 723.

Cypræa ovum and *subflava*, Gmelin.

Cypræa olivacea, Lamarck.

Hab. Eastern Seas.

This, unlike most other species of the genus, is not spotted at the sides.

Species 57. (Mus. Cuming.)

CYPRÆA PICTA. *Cypr. testâ oblongo-ovatâ, anticè attenuatâ, lateribus subangulatis, basi depresso-planâ, dentibus brevibus; dorso cæruleo, fasciâ centrali subobscurâ, purpureo-fusco undique peculiariter nebulato-picto, hiatu dorsali centrali, lateribus fumeo-fuscis, guttis conspicuis nigricantibus ornatis, basi fumeo-albidâ.*

THE PAINTED COWREY. Shell oblong-ovate, attenuated anteriorly, sides somewhat angulated, base depressly flattened, teeth short; back blue, with a rather obscure central band, painted throughout with peculiarly clouded purple-brown, with a central dorsal opening, sides smoky brown, ornamented with conspicuous blackish spots, base smoky white.

GRAY, Zool. Journal, vol. i. p. 389. pl. 7. f. 10.

Hab. Mouth of the Gambia.

Distinguished from the following species, to which it is the next allied, by its reddish-purple tinged painting and dorsal opening, by its angular form, the base being more depressed, and the back more steeply elevated.

Species 58. (Mus. Saul.)

CYPRÆA ZONATA. *Cypr. testâ ovatâ, lateribus basique convexis, dentibus fortibus, subelongatis; dorso cæruleo*

aut viridescente, maculis semilunaribus undatis plus minusve distinctis medio zonato, fulvo-fusco sparsim undique nebuloso-picto, lateribus basique fumeo-fuscis, nigriguttatis.

THE ZONED COWREY. Shell ovate, sides and base convex, teeth strong, a little elongated; back blueish or greenish, zoned across the middle with more or less distinct waved semilunar spots, sparingly painted throughout with clouded fulvous brown, sides and base dark smoky brown, spotted with black.

CHEMNITZ, Conch. Cab. vol. x. pl. 145. f. 1342.

Eadem, *Cypræa nebulosa*, Kiener.

Hab. Mouth of the Gambia.

I quite agree with M. Kiener in regarding this shell as the *Cypræa zonata* of Chemnitz, for a full history of which I refer to my observations on the *Cypræa Sowerbyi*. The *Cypræa nebulosa* of M. Kiener is, however, an obscure variation of colouring, which may be easily identified with the typical examples by a careful comparison.

Species 59. (Mus. Saul.)

CYPRÆA NIGRO-PUNCTATA. *Cypr. testâ oblongo-ovatâ, antice attenuatâ et contractâ, lateribus marginatis et cum extremitatibus productis, dentium interstitiis subprofundè sulcatis; dorso cærulescente, fulco pallidè lentiginoso, lateribus creberrimè nigripunctatis, basi flavicante.*

THE BLACK-DOTTED COWREY. Shell oblong-ovate, attenuated and contracted anteriorly, sides marginated and produced with the extremities, interstices between the teeth rather deeply grooved; back blueish, freckled with pale fulvous brown, sides very closely dotted with black, base yellowish.

GRAY, Zool. Journal, vol. iv. p. 11.

Eadem, *Cypræa irina*, Kiener.

Hab. Gallapagos Islands, Pacific Ocean (found under stones); Cuming.

M. Kiener has been singularly unfortunate in his lucubrations of this and two other allied species; an uncoated example of that under consideration is figured at Pl. II. with its proper name *Cypræa nigro-punctata*, and a fine specimen with its last coating of enamel is introduced at Plate LVI., as a new species, under the name of *Cypræa irina*. The *Cypræa Sowerbyi* is unconsciously reproduced at Plate LVI. under that of *Cypræa ferruginosa*. A variety of *Cypræa zonata* is introduced at Pl. XXXII. as a new spe-

cies under the name of *Cypræa nebulosa*; and to complete the category it may be added that his *C. Boivini* is a well-known variety of *C. gangrenosa*, his *C. fabula* one of *C. felina*, his *C. Grayi* the *C. physis*, already named *C. achate* by Sowerby, and his *C. rotunda* the *C. quadripunctata*.

Species 60. (Mus. Cuming.)

CYPRÆA ARABICULA. *Cypr. testâ ovatâ, dorso elevato, lateribus marginatis, extremitatibus angulato-productis, basi depresso-planâ, dentibus numerosis, angustis, acutis, interstitiis profundè incisis; dorso cæruleo-viridescente, obscure fasciato, fusco creberrimè subreticulatim picto, lateribus fumeo-fuscis, guttis grandibus nigricantibus ornatis, basi albicante.*

THE LITTLE ARABIC COWREY. Shell ovate, back elevated, sides marginated, with the extremities angularly produced, base depressly flat, teeth numerous, narrow, sharp, interstices deeply cut; back blueish green, obscurely banded, very closely reticulately painted with brown, sides smoky brown, ornamented with large black spots, base whitish.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. x. p. 534.

Hab. St. Elena, West Columbia (under stones); Cuming.

There is something very peculiar in the form of this species, the base being flattened, the sides produced into a rim all round, whilst the teeth are very deeply cut in the interstices.

Species 61. (Mus. Cuming.)

CYPRÆA PUNCTULATA. *Cypr. testâ subgloboso-ovatâ, crassâ, solidâ, lateribus rotundatis, basi convexâ, dentibus fortiusculis; dorso cæruleo-viridescente, olivaceo-fusco creberrimè lentiginoso, lateribus fumeo-nigricantibus, interdum aurantio tinctis, guttis nigris aspersis.*

THE FINE DOTTED COWREY. Shell somewhat globosely ovate, thick, solid, sides rounded, base convex, teeth rather strong; base blueish green, very closely freckled with olive-brown, sides smoky black, sometimes brightened with a warm orange tinge, sprinkled with black spots.

GRAY, Zool. Journal, vol. i. p. 387.

Hab. Panama (found under stones), Cuming.

Intermediate between the *C. pallida* and *Arabicula*, but perfectly distinct from both.



62



63^b



63^a



64



66^a



65



66^b



67^b



67^a



68

CYPRÆA.

PLATE XIV.

Species 62. (Mus. Cuming.)

CYPRÆA SAULÆ. *Cypr. testā oblongo-ovatā, posticè umbilicatā, anticè attenuatā, lateribus anticè marginatis, extremitatibus productis, subreflexis, aperturā leviter flexuosā, dentibus prominulis; dorso lacteo, maculā grandī conspicuā centrali, punctisque paucis minutissimis vicidè aurantio-castaneis picto, lateribus guttis perpaucis nigricante-fuscis ornatis, basi albicante, dentibus albidis, interstitiis aureo-flavescentibus.*

SAUL'S COWREY. Shell oblong-ovate, umbilicated posteriorly, attenuated anteriorly, sides marginated at the anterior end, extremities produced, a little reflexed, aperture slightly flexuous, teeth rather prominent, bold; back clear cream-colour, painted with a large conspicuous central spot of bright orange chestnut, surrounded with a few very minute dots of the same colour, sides ornamented with a very few dark brown spots, base whitish, teeth whitish, interstices pale golden yellow.

GASKOIN, Pro. Zool. Soc. 1843.

Hab. Island of Corregidor, Bay of Manila (found among coarse sand and gravel at the depth of seven fathoms); Cuming.

This is one of the most distinct and pleasing species to look upon of any in the genus; the beautiful economy and delicacy of the bright sienna painting upon a clear cream-coloured ground, render it an object of peculiar admiration.

Species 63. (Mus. Cuming.)

CYPRÆA ERYTHRÆENSIS. *Cypr. testā subcylindraceo-ovatā, anticè attenuatā, lateribus rotundatis, extremitatibus subproductis, dentibus parvis, numerosis, per basem subelongatis; dorso viridi-cærulescente, punctis perpaucis minutissimis maculāque grandī centrali deformi aurantio-castaneā picto, extremitatibus guttā unicā aurantio-castaneā utrinque ornatis; lateribus, dentibus, basique cæruleo-albidis.*

THE RED-SPOTTED COWREY. Shell somewhat cylindrically ovate, attenuated anteriorly, sides rounded, extremities a little produced, teeth small, numerous, elongated partially across the base; back greenish blue, painted with exceedingly minute orange-ches-

nut dots and a large central mis-shapen blotch of the same colour, extremities ornamented on each side with a single reddish chesnut spot, sides, teeth and base blueish white.

BECK, MSS. (Mus. Cuming.)

Hab. Red Sea; Rüppell. Zanzibar; Thorn.

The *Cypræa erythræensis* exhibits without doubt a close approximation to the *Cypræa stolidā*; but the differences, though minute, are constant, and determinable at a glance. In the first place it is uniformly smaller in size; the specimen here figured being rather above the average, and the largest I have seen. In form it varies in being less elevated, more cylindrically lengthened, and attenuated at the anterior end, without that sudden declivity which is so characteristic of its ally. There is moreover a marked variation in the colouring:—in all the specimens I have seen, probably some twenty or more, the central dorsal blotch is of a different style, it is more open and irregular, and has no symmetry of squareness; I find no indication, either, of the angles of colour which characterize the four corners of the *Cypræa stolidā*, nor are the teeth or edge of the extremities coloured.

Species 64. (Mus. Gaskoin.)

CYPRÆA CYLINDRICA. *Cypr. testā elongato-ovatā, subcylindraceā, anticè declivi, lateribus cum extremitatibus marginatis, reflexis, basi depresso-planā, aperturā anticè dilatatā, dentibus exterioribus grandibus subdistantibus, interioribus tenuibus per basem subelongatis; dorso cærulescente punctis maculāque grandī centrali deformi fulvo-castaneis lentiginoso, extremitatibus maculā conspicuā nigro-castaneā utrinque pictis, latere sinistro punctis perpaucis; dentibus basique albicantibus.*

THE CYLINDRICAL COWREY. Shell elongately ovate, somewhat cylindrical, steep anteriorly, sides with the extremities marginated, reflexed, base depressly flat, aperture anteriorly dilated, outer teeth large, rather distant, inner fine and elongated partially across the base; back blueish, freckled with very minute fulvous chesnut specks and a large mis-shapen central blotch, extremities painted on each side with a conspicuous blackish chesnut spot, the left side with one or two dots; teeth and base whitish.

December 1845.

BORN, Mus. p. 184. pl. 8. f. 10.

Hab. Ceylon; Pacific Islands; New Holland.

The New Holland examples of this species are rounder and less elongated, approaching more to the form of the *Cypræa erronea*.

Species 65. (Mus. Cuming.)

CYPRÆA DILUCULUM. *Cypr. testā subpyriformi-ovatā, ventricosā, aperturā flexuosā, dentibus brevibus fortiusculis; dorso violaceo-castaneo, zonis duabus aut pluribus undulato-albis ornatis, lateribus basique albis, punctis perpaucis fuscis notatis, extremitatibus nigricante-castaneo-marginatis.*

THE DAY-BREAK COWREY. Shell somewhat pyriformly ovate, ventricose, aperture flexuous, teeth short, rather strong; back violet-chesnut, ornamented with two or more zones of zigzag white, sides and base white, marked with a very few brown dots, extremities edged with dark chesnut.

Cypræa ziczac (pars), Linnæus, Martini.

Cypræa undata, Lamarck (not of Chemnitz.)

Hab. Philippine Islands; Cuming.

This ancient and well-known species requires to be distinguished by a new name in consequence of the word *undata*, applied to it by Lamarck, having been already used by Chemnitz in reference to a shell which proves to be the young of the *C. Mauritiana* (Conch. Cab. vol. x. p. 102). It was confounded by Linnæus and Martini with the *C. ziczac*, and is extremely well figured by the latter in the first volume of his 'Conchylien Cabinet,' published in 1769.

Species 66. (Fig. a, Mus. Cuming. Fig. b, Mus. Saul.)

CYPRÆA TABESCENS. *Cypr. testā oblongā vel ovatā, umbilicatā, lateribus incrassatis, dentibus parviusculis; dorso albicante, flavido-fuscescente pallidè lentiginoso, maculis semilunaribus medio subobscurè trizonato, lateribus fusco-guttatis, dentibus basique albicantibus.*

THE CONSUMPTIVE COWREY. Shell oblong or ovate, umbilicated, sides thickened, teeth rather small; back whitish, freckled with pale yellowish brown, and rather obscurely three-zoned across the middle with semilunar spots of the same colour, sides spotted with brown, teeth and base whitish.

SOLANDER, MSS., Dillwyn Cat. vol. i. p. 463.

Cypræa teres, Gmelin (?).

Hab. Ceylon; Taheite, Pacific Ocean (on the reefs); Cuming.

The figures in Martini's 'Conch. Cab.' f. 294 and 295, to which Mr. Gray and M. Deshayes refer for this species, are intended to represent, without doubt, the *Cypræa cy-*

lindrica; the *Cypræa tabescens* may be recognised in Fig 295 and 296 of the same plate. I have figured a curious broad growth of this species from Mr. Cuming's collection, because it is one of extremely rare occurrence.

Species 67. (Mus. Saul.)

CYPRÆA STOLIDA. *Cypr. testā oblongo-ovatā, dorso elevato, extremitates versus utrinque declivi, lateribus cum extremitatibus marginatis, subreflexis, aperturā flexuosā, dentibus numerosis, per basem elongatis, interstitiis subprofundè incis; dorso cærulescente, punctis minutissimis, maculā grandī quadratā centrali, maculāque semiquadratā ad utrumque angulum aurantio-castaneis vividè picto, basi albicante, dentibus et extremitatibus aurantio-castaneis.*

THE FOOLISH COWREY. Shell oblong-ovate, back elevated, steep down each side to the extremities, sides with the extremities marginated, a little reflexed, aperture flexuous, teeth numerous, elongated across the base, interstices rather deeply cut; back blueish, brightly painted with very minute orange-chesnut dots, with a large central square spot, and with a half-square spot at each corner, of the same colour, base whitish, teeth and extremities orange-chesnut.

LINNEUS, Syst. Nat. (12th edit.), p. 1180.

Rubigo, Martini.

Cypræa rubiginosa, Gmelin.

Hab. Ceylon.

A careful comparison of the above description with that of the *Cypræa erythræensis*, will show that there is a very characteristic specific difference between them, and one of which I find no intermediate modification.

Species 68. (Mus. Saul.)

CYPRÆA SPURCA. *Cypr. testā ovatā, lateribus cum extremitatibus marginatis, foveolatis, dentibus fortiusculis; dorso luteo nebulato et ocellato, lateribus flavicantibus, foveolis fuscis, basi albicante.*

THE DIRTY COWREY. Shell ovate, sides with the extremities marginated, pitted, teeth rather strong, back clouded and ocellated with fulvous yellow, pits brown, base whitish.

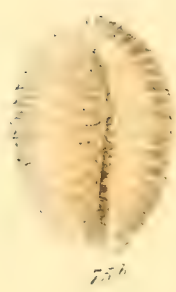
LINNEUS, Syst. Nat. (12th edit.) p. 1179.

Cypræa acicularis, Gmelin.

Cypræa flaveola, Lamarck, (not of Linnæus).

Hab. Mediterranean.

There is a curious variety of this well-known shell, in which the base has a large dark splash upon it.



CYPRÆA.

PLATE XV.

Species 69. (Mus. Saul.)

CYPRÆA OBVALLATA. *Cypr. testā orbiculari-ovatā, depressā, dorso angusto, elevato, lateribus valdē incrassato-marginatis, aperturā angustā, dentibus fortibus, subelongatis; dorso cæruleo, annulo sanguineo interdum circumcincto, lateribus basique fumeo-albicantibus.*

THE INTRENCHED COWREY. Shell orbicularly ovate, depressed, back narrow, elevated, sides very much thickened and puffed out, aperture narrow, teeth strong, rather elongated; back blue, sometimes encircled with a blood-red ring, sides and base smoky white.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 533.

Cypræa moneta, var., Dillwyn.

Hab. Taheite, Pacific Islands (found on the reefs); Cuming.

I use the term *obvallata* instead of *obelata*, believing it to be the word which Lamarck intended to characterize the peculiar growth of this shell. Those who think with me that such was the case, will adopt it without prejudice to the authenticity of the species.

Species 70. (Mus. Cuming.)

CYPRÆA NUCLEUS. *Cypr. testā ovatā, extremitatibus productis et rostratis, dorso noduloso, nodulis, præcipuè lateralibus, liris coadunatis, basi convexā, dentibus parvis, in liris angustis per basem utrinque extensis; sordidè albā, nodulis lirisque pallidè ferruginosis.*

THE HARD-CRUSTED COWREY. Shell ovate, extremities produced and beaked, back nodulous, nodules, particularly the lateral ones united together by ridges, base convex, teeth small, extending across the base on both sides in ridges; dull white, nodules and ridges pale rusty brown.

LINNEUS, Syst. Nat. (12th edit.), p. 1181.

The dorsal line of this species is represented by a rather deep longitudinal groove.

Species 71. (Mus. Cuming.)

CYPRÆA ANNULUS. *Cypr. testā ovatā, basi concavo-depressā, lateribus incrassatis, declivibus, dentibus, fortibus, subdistantibus; fumeo-albidā, dorso annulo sanguineo circumcincto.*

THE RING COWREY. Shell ovate, basè concavely depressed,

sides thickened, steep, teeth strong, rather distant; smoky white, back encircled with a blood-red ring.

LINNEUS, Syst. Nat. (12th edit.) p. 1179.

Hab. Eastern Seas.

There is no indication in this species of the oval intrenchment which characterizes the growth of the *Cypræa obvallata*.

Species 72. (Mus. Cuming.)

CYPRÆA HELVOLA. *Cypr. testā ovatā, depressā, lateribus incrassatis, medio turgidis, marginatis, foveolatis, dentibus fortibus, latiusculis, exterioribus per basem partim elongatis; dorso olivaceo-fuscescente, ocellis numerosis albis, maculisque stellaribus fulvo-rubidis sparsim ornato, lateribus basique fusco-rubidis, colore supra marginem saturatiore, extremitatibus violaceis.*

THE RED COWREY. Shell ovate, depressed, sides thickened, swollen in the middle, marginated, pitted, teeth strong, rather broad, the outer partially elongated across the base; back pale olive-brown, ornamented with numerous white eyes and fulvous brown starry spots, sides and base brownish red, colour darker above the edge, extremities violet.

LINNEUS, Syst. Nat. (12th edit.), p. 1180.

Hab. Ceylon.

A common species but one of the most richly and beautifully coloured of the series.

Species 73. (Mus. Cuming.)

CYPRÆA OCELLATA. *Cypr. testā ovatā, basi subdepressā, lateribus turgidis, submarginatis, obscure foveolatis, dentibus fortibus; dorso rufescente-flavo, ocellis numerosis albis, quorum nonnullis hic illic nigro-pupillatis, ornato, basi lateribusque albidis, fusco-punctatis.*

THE OCELLATED COWREY. Shell ovate, base a little depressed, sides swollen, submarginated, obscurely pitted, teeth strong; back reddish-yellow, ornamented with numerous white eyes, some of which are pupilled with black, base and sides whitish, dotted with brown.

LINNEUS, Syst. Nat. (12th edit.), p. 1180.

Hab. Eastern Seas.

Another abundant and beautifully marked species well-known to collectors.

Species 74. (Mus. Saul.)

CYPRÆA MONETA. *Cypr. testā trigono-ovatā, depressā, lateribus incrassato-marginatis, tuberculatis, dentibus subobtusis, basi tuberculatā; albā, pallidē stramineā, aut flavā, dorso annulo tenui sanguineo-rufo interdum circumcincto.*

THE MONEY COWREY. Shell triangularly ovate, depressed, sides thickly margined, tuberculated, teeth rather obtuse, base tuberculated; white, pale straw-colour or deep yellow, back sometimes encircled with a faint blood-red ring.

LINNÆUS, Syst. Nat. (12th edit.) p. 1178.

Hab. Taheite, Pacific Ocean (on the reefs); Cuming.

The colour of this species varies from white to a very deep yellow.

Species 75. (Mus. Saul.)

CYPRÆA MADAGASCARIENSIS. *Cypr. testā ovatā, peculiariter depressā, dorso noduloso, nodulis liris coadunatis, sulco dorsali impresso, lateribus marginatis, extremitatibus obtusis, aperturā angustā, dentibus tenuibus, basem super in liris extensis, quarum alternis præcipuè ad latus sinistrum, minoribus; lacteā, dorso rosaceo-fuscescente pallidissimè tincto, liris basalibus rufo-fuscescente tenuiter marginatis.*

THE MADAGASCAR COWREY. Shell ovate, peculiarly depressed, back noded, nodules connected together by ridges, impressed by a dorsal groove, sides margined, extremities obtuse, aperture narrow, teeth fine, extending over the the base in ridges, the alternate of which, on the left side more particularly, are smaller; cream-colour, back tinged with pinkish-brown, basal ridges edged with reddish-brown.

GMELIN. Syst. Nat. p. 3419.

Cypræa nucleus, var. *b.* Lamarck.

Hab. Madagascar.

This species is uniformly larger in size than the *C. nucleus*, much more depressed, and of a peculiarly soft pinkish cream-colour. The extremities are more obtuse, and the ridges across the left base are alternately larger and smaller.

Species 76. (Mus. Cuming.)

CYPRÆA PUSTULATA. *Cypr. testā ovatā, anticè attenuatā, basi depressā, dentibus in liris conspicuis per basem utrinque extensis, columellā cum concavitate anticā lævigatā, dorso striis elevatiusculis longitudinalibus et transversis, quarum transversis fortioribus, subtilissimè cancellato, verrucis numerosis prominentibus, quarum medianis majoribus, munito; dorso cinereo-plumbeo, verrucis vividè corallo-rubris, ad basem nigro-annulatis, basi nigricante-fuscā, liris albidis.*

THE PUSTULAR COWREY. Shell ovate, somewhat attenuated anteriorly, depressed at the base, teeth extending across the base on each side in conspicuous ridges, columella with the anterior concavity smooth, back very finely cancellated with slightly elevated longitudinal and transverse striæ, of which the transverse are the stronger, and armed with numerous prominent pimples of which the middle are the largest; back ashy lead-colour, pimples bright coral-red ringed with black, ribs whitish.

Testa junior.

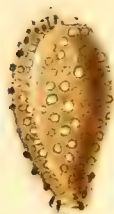
Testa junior dorso cancellato, verrucis nullis

Younger shell with the back cancellated, but destitute of pimples.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 535.

Hab. Isle of Plata and Panama, west coast of America (found under stones); Cuming.

It is a circumstance worth noting in the growth of this shell that the teeth become considerably developed before there is any indication of dorsal pimples.



77



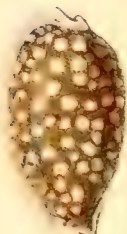
78^b



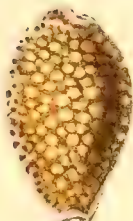
78^a



79



81



80



82^a



83^b



83^a



82^b

CYPRÆA.

PLATE XVI.

Species 77. (Mus. Cuming.)

CYPRÆA CUMINGII. *Cypr. testā oblongo-ovatā, anticē attenuatē extensā, lateribus marginatis, extremitatibus productis et reflexis, aperturā flexuosā, dentibus tenuibus, præcipuè interioribus; dorso fulco-stramineo, ocellis albidis fusco annulatis parvisculis sparsim ornato, lateribus castaneo-punctatis, basi albā.*

CUMING'S COWREY. Shell oblong-ovate, attenuately drawn out anteriorly, sides marginated, extremities produced and reflected, aperture flexuous, teeth fine, especially the inner; back fulvous straw-colour, sparingly ornamented with rather small white eyes tinged with pale brown, sides dotted with dark chestnut brown, base white.

GRAY; Sowerby, Conch. Illus. Cat. Cypræadæ, no. 77. f. 5 and 181.

Hab. Island of Rietea, Society Islands (found under coral on the reefs at low water); Cuming.

This beautiful species may be distinguished from the *Cypræa cribraria* by its attenuated and elegant growth, by the clearness and delicacy of its colouring, and by the spots being smaller, fewer in number, and ringed with pale brown.

Species 78. (Mus. Saul.)

CYPRÆA CITRINA. *Cypr. testā globoso- vel oblongo-ovatā, ventricosā, lateribus marginatis et foveolatis, aperturā latiusculā, dentibus brevibus; dorso olivaceo-rubido maculis inæqualibus rotundis albidis irregulariter asperso, subtus cinerascens, obscure fasciato, hiatu dorsali latiusculo, lateribus extremitatibus basique citrino-rubidis, basi castaneo tinctā.*

THE CITRON COWREY. Shell globosely or oblong-ovate, ventricose, sides marginated, pitted, aperture rather wide, teeth short; back olive ruddy colour, irregularly sprinkled with unequal round white spots, ash-colour underneath, obscurely banded, dorsal hiatus rather wide, sides extremities and base citron-red, base stained with chestnut.

GRAY, Zool. Journal, vol. i. p. 509.

Hab. — ?

The specimen here figured from the collection of Miss Saul is the only one I know in really fine condition. The species varies in form from a swollen globose to an oblong shape.

Species 79. (Mus. Saul.)

CYPRÆA BICALLOSA. *Cypr. testā ovato-oblongā, lateribus submarginatis, obscure foveolatis, extremitatibus subrotatis, callositate plus minusve conspicuā munitis, aperturā flexuosā, dentibus fortibus, per basem subelongatis, interstitiis profundè excavatis; rubido-crocata, dorso castaneo variè maculato et nebulato.*

THE TWO-CALLUS COWREY. Shell ovately oblong, sides slightly marginated, obscurely pitted, extremities somewhat beaked, furnished with a more or less conspicuous callus, aperture flexuous, teeth strong, a little elongated across the base, interstices deeply excavated; reddish saffron colour, back variously clouded and mottled with chestnut.

GRAY; Sowerby, Conch. Illus. Cat. Cypræadæ, no. 50. f. 10.

Hab. Island of St. Vincent, West Indies; Guilding.

An extremely rare and interesting species, distinguished from all others not only by its callosities, but by its general form and colouring.

Species 80. (Mus. Cuming.)

CYPRÆA ESONTROPIA. *Cypr. testā ovato-oblongā, subumbilicatā, solidiusculā, lateribus incrassatis, marginatis, dentibus fortibus; dorso luteo vel pallidè cinnamomeo, maculis rotundis numerosis subamplis ornato, lateribus basique eburneis, lateribus cinnamomeo punctatis.*

THE KEELED COWREY. Shell ovate-oblong, rather solid, slightly umbilicated, sides thickened, marginated, teeth strong; back yellowish or pale cinnamon-brown, ornamented with numerous rather large white spots, sides and base ivory white, sides dotted with cinnamon-brown.

DUCLOS, Magasin de Zoologie 1833, pl. 36.

Hab. Philippine Islands; Cuming.

Distinguished from the following species to which it is so nearly allied, by its thickened growth, by its larger and more contiguous spots, and by the dotted colouring of the sides; characters which appear to be of uniform constancy.

Species 81. (Mus. Saul.)

CYPRÆA CRIBRARIA. *Cypr. testā ovato-oblongā, subumbilicatā, tenuiculā, lateribus marginatis cum extremita-*

tibus plerumque reflexis, dentibus subnumeris; dorso luteo vel cinnamomeo, maculis rotundis albis plus minusve numerosis ornato, basi lateribusque eburneis.

THE SIEVE-LIKE COWREY. Shell ovate-oblong, rather thin, sides marginated generally with the extremities reflexed, teeth rather numerous; back yellow or cinnamon-brown, ornamented with more or less numerous round white spots, base and sides ivory white.

Testa junior.

Testa junior flavescens-lacteo latifasciata, immaculata.

Younger shell encircled with broad bands of yellowish cream-colour, without spots.

LINNEUS, Syst. Nat. (12th edit.), p. 1178.

Hab. Ceylon.

It is not literally correct to say that the back of this species is spotted; there is no deposit of spots, the last coat of cinnamon-brown colour being perforated, like a sieve, the white or cream coloured ground of the intermediate state is seen through each orifice. The two different shades generally observable in the colour, shows that the left mantle of the animal must be of unusually large proportion, whilst the right is small and feeble.

Species 82. (Fig. *a* and *b*, Mus. Saul.)

CYPRÆA STAPHYLEA. *Cypr. testā ovatā, dorso multigranoso, granis latera versus prominentioribus, lateribus et extremitatibus foveolatis, dentibus per basem utrinque extensis; dorso lavendulo aut cinereo-violaceo, granis albidis, dentibus et extremitatibus croceo-fuscescentibus, extremitatibus interdum purpureis, basi albicante.*

THE GRAPE-SHOT COWREY. Shell ovate, back many-grained, grains more prominent towards the sides, sides and extremities pitted, teeth extended across the base on each side; back lavender or ashy violet, grains whitish, teeth and extremities yellowish brown, extremities sometimes purple, base whitish.

Variety β , Fig. 82 *a*.

Testa grandior, tenuior, dorso lævigato, maculis granorum locis.

Shell larger, thinner, smooth, with spots instead of grains.

LINNEUS, Syst. Nat. (12th edit.), p. 1181.

Variety β , *Cypræa interstincta*, Wood.

Varietas intermedia, *Cypræa limacina*, Lamarck.

Hab. Philippine Islands (all varieties); Cuming.

This I consider, without exception, the most variable species of the genus, so much so that I can only particularize the two extremes through which all the variations range. The typical variety (Fig. *b*.) is small and granulous, the opposite variety (Fig. *a*.) is smooth, the grains being replaced by spots, and larger, confirming with peculiar accuracy an observation in my Monograph of the Cones to the effect that all those varieties of shells in which the surface is raised in granules, are proportionally more diminutive in size. One of the most constant character throughout the varieties of this species is the yellowish-brown colouring of the teeth and extremities, indeed it is hard to distinguish some of the white varieties from the *C. nucleus* except by this peculiarity.

Species 83. (Mus. Cuming.)

CYPRÆA LISTERI. *Cypr. testā ovatā, depressinsculā, lateribus extremitatibusque marginatis et foveolatis, dentibus fortiusculis, interstitiis profundè excavatis; dorso pallidè olivaceo, punctis perpaucis albidis, guttis olivaceo-fuscis sparsis inæqualibus ornato; lateribus basi-que purpurascens-violaceis, purpureo lineatis et punctatis.*

LISTER'S COWREY. Shell ovate, rather depressed, sides and extremities marginated and pitted, teeth rather strong, interstices deeply excavated; back pale olive, ornamented with a very few white dots, and a few scattered unequal olive-brown spots; sides and base pale purple-violet, dashed and dotted with purple.

GRAY, Zool. Journal, vol. 1. p. 507.

Hab. Philippine Islands; Cuming.

A beautiful species, and one of great rarity, well distinguished by its peculiarity of colouring.



85^a



85



85^b



86



87



88



89



90^a



90^b



91

CYPRÆA.

PLATE XVII.

Species 84. (Mus. Gaskoin.)

CYPRÆA PULICARIA. *Cypr. testâ subcylindraceo-oblongâ, anticè subdeclivi, latere dextro marginato, leviter contracto, aperturâ angustâ, dentibus minutis; pellucido-albâ, vel luteâ, lateribus dorsoque punctis rubido-fuscis subconspicuis aspersis.*

THE FLEA-SPOTTED COWREY. Shell somewhat cylindrically oblong, somewhat steep anteriorly, right side marginated, slightly contracted, aperture narrow, teeth minute; transparent white or yellowish, sides and back sprinkled with rather conspicuous reddish-brown dots.

REEVE, Pro. Zool. Soc., 1845.

Hab. —?

This is quite a distinct species from the *Cypræa piperata* with which I have frequently seen it mingled in collections; it is of a smaller and more cylindrically oblong form and is not banded, whilst the dots are more conspicuous.

Species 85. (Mus. Saul.)

CYPRÆA EDENTULA. *Cypr. testâ subpyriformi-ovatâ, inflatâ, spirâ plano-depressâ, latere dextro marginato, posticè producto, aperturâ latiusculâ, columellâ labroque edentulis; albidâ, dorso rubido-castaneo profusè picto, lateribus punctatis.*

THE TOOTHLESS COWREY. Shell somewhat pyriformly ovate, inflated, spire flatly depressed, right side marginated, produced posteriorly, aperture rather wide, lip and columella toothless; white, back profusely painted with reddish-chesnut, sides dotted.

SOWERBY, Conch. Illus. Cat. Cypræadæ, no. 102.

Cypræa (Luponia) Algoensis, var. Gray.

Hab. Southern Africa.

This shell, of which I have examined numerous examples, is specifically distinct from the *Cypræa Algoensis* without reference to the absence of teeth; it is of a shorter and more inflated growth, and the back is more conspicuously bedaubed with chesnut colour.

Species 86. (Mus. Saul.)

CYPRÆA CAPENSIS. *Cypr. testâ ovatâ, profundè umbilicatâ, basi peculiariter depressâ, lateribus conspicuè marginatis, extremitatibus præcipuè posticis productis, aper-*

turâ semicirculari, columellâ dorsoque liris rugæformibus parvis numerosissimis confertis superficiariis, labri dentes versus convergentibus tectis; sordidè luteo-fuscescente.

THE CAPE COWREY. Shell ovate, deeply umbilicated, peculiarly depressed, sides conspicuously marginated, extremities, especially the posterior, produced, aperture crescent-shaped, columella and back covered with very numerous close-set small superficial wrinkle-like ridges, converging towards the teeth of the lip; dirty light yellowish-brown.

GRAY, Wood Index Testaceologicus Supp. pl. 3. f. 18.

Cypræorula Capensis Gray.

Hab. Cape of Good Hope.

The ridges of this remarkable and, now, well-known species are of a curious superficial epidermal character, though converging round the lip with some solidity.

Species 87. (Mus. Saul.)

CYPRÆA PIPERATA. *Cypr. testâ subpyriformi-ovatâ, latere dextro marginato, dentibus parvis; lutescente, dorso fasciis quaternis pallidè castaneis interruptis ornato, obscure minutè punctato, lateribus punctatis.*

THE PEPPERED COWREY. Shell somewhat pyriformly ovate, right side marginated, teeth small; yellowish, back ornamented with four interrupted pale chesnut bands, obscurely minutely dotted, sides dotted.

SOLANDER, MSS.; Gray, Zool. Journal vol. i. p. 498.

Cypræa angustata var. (f. 2. b.) Kiener.

Hab. New Holland.

The two central bands of this species are sometimes amalgamated into one of double width. It is of a more pyriform shape than that which I have distinguished by the new title of *Cypræa pulicaria*, and the painting and dotting are of quite a different character.

Species 88. (Mus. Saul.)

CYPRÆA FUSCO-DENTATA. *Cypr. testâ subpyriformi-ovatâ, posticè plano-depressâ, subumbilicatâ, marginibus subincrassatis, dentibus basem super rugoso-liratis, columellâ lævigatâ; lutescente aut sordidè albâ, dentibus fuscis.*

THE BROWN-TOOTH COWREY. Shell somewhat pyriformly ovate, posteriorly flatly depressed, slightly umbilicated, margins rather thickened, teeth rugose, ridged across the base, columella smooth; yellowish or dirty white, teeth brown.

GRAY, Zool. Journal, vol. 1. p. 499.

Hab. Cape of Good Hope.

No examples of this species appear to have come to hand in any better condition than that described more than twenty years ago by Mr. Gray, with the back entirely decorticated, but amply distinguished from any other at the base.

Species 89. (Mus. Cuming.)

CYPRÆA SIMILIS. *Cypr. testā subpyriformi-ovatā, ventricosā, posticè plano-obtusā, crassiusculā, lateribus submarginatis, aperturā latiusculā, dentibus exterioribus subdistantibus, basem versus partim elongatis, interioribus parvis numerosis irregularibus confertis; sordidè albā, fuscescente spiram versus indistinctè sparsim maculato.*

THE SIMILAR COWREY. Shell somewhat pyriformly ovate, ventricose, posteriorly flatly obtuse, rather thick, sides slightly marginated, aperture rather broad, outer teeth somewhat distant, partially elongated across the base, inner small, numerous, irregular, close-set; dead white, back indistinctly spotted here and there around the spire with pale brown.

GRAY, Zoological Miscellany p. 36.

Hab. Cape of Good Hope.

This is another remarkable shell from South Africa of which no other specimen has been seen. Like all the species from that locality figured in the accompanying plate, it is of an opaque white, tinged with brown, without any porcellaneous enamel.

Species 90. (Mus. Gaskoin.)

CYPRÆA ALGOENSIS. *Cypr. testā oblongo-ovatā, posticè depressiusculā, latere dextro marginato, posticè producto, aperturā latiusculā, dentibus exterioribus subelongatis, interioribus parvis brevissimis; lutescente-lacteā, lateribus dorsoque rubido-fusco punctatis.*

THE ALGOA COWREY. Shell oblong-ovate, rather depressed posteriorly, right side marginated, produced posteriorly, aperture rather wide, outer teeth slightly elongated, inner small, very short; yellowish cream-colour, sides and back dotted with reddish brown.

Hab. Algoa Bay, South Africa.

The inner teeth of this species are rarely represented by anything more than a row of granular nodules.

Species 91. (Mus. Gaskoin.)

CYPRÆA ANGUSTATA. *Cypr. testā ovatā, incrassatā, lateribus tumidiusculis, submarginatis, basi depressā, dentibus parvis, præcipuè interioribus: dorso cinereo-fusco, lateribus albicantibus, punctis grandibus castaneis conspicuè notatis, extremitatibus maculā castaneā utrinque pictis, basi albā.*

THE STRAIGHTENED COWREY. Shell ovate, thickened, sides rather swollen, slightly marginated, base depressed, teeth small, especially the inner; back ashy brown, sides whitish, conspicuously marked with large chesnut brown dots, extremities painted on each side with a chesnut brown spot, base white.

Hab. New Holland.

Although a species comparatively not uncommon, the specimen here figured from the collection of Mr. Gaskoin is the only one I know that is not more or less worn, or uncoated. It has a bright enamelled porcellaneous surface consisting of a layer of dark brown colouring matter, overlaid with a thin filmy coating of semi-opaque cream colour.



92



93



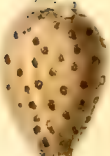
93^b



94



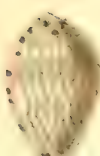
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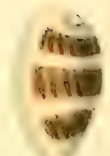
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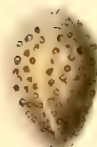
96^a



97



98



99

CYPRÆA.

PLATE XVIII.

Species 92. (Mus. Saul.)

CYPRÆA FIMBRIATA. *Cypr. testā oblongo-ovatā, lateribus submarginatis, medio leviter contractis, basi plano-depressā, aperturā anticè hiantē, dentibus parvisculis; albicante, dorso olivaceo-fusco minutissimè lentiginoso, maculā grandi centrali indistinctā, extremitatibus maculā conspicuā nigricante-violaceā utrinque ornatis.*

THE FIMBRIATED COWREY. Shell oblong-ovate, sides somewhat marginated, slightly contracted in the middle, base flatly depressed, aperture gaping anteriorly, teeth rather small; whitish, back very minutely freckled with olive brown, with a large indistinct central blotch, extremities ornamented on both sides with a conspicuous dark violet spot.

GMELIN Syst. Nat. p. 2423. ? Gray, Zool. Journal vol. 1. p. 383,

Hab. Japan (under stones) Dr. Siebold.

A species which is extremely variable in size, but always distinguishable by the dark violet spots on each side of the extremities.

Species 93. (Mus. Gaskoin.)

CYPRÆA TERES. *Cypr. testā elongato-ovatā, latere dextro conspicuè marginato, basi peculiariter depresso, extremitatibus prominulis subrostratis, aperturā angustā, dentibus minutis; albicante, dorso maculis fusciscentibus undatis.*

THE TAPERING COWREY. Shell elongately ovate, right side conspicuously marginated, peculiarly depressed at the base, extremities prominent, somewhat beaked, aperture narrow, teeth minute; whitish, back painted with three bands of waved pale brown spots, right side dotted with brown.

GMELIN; Sowerby Conch. Illus. Cat. Cypræadæ, no. 72. f. 56.

Cypræa tabescens, var. Gray.

Hab. — ?

I take this shell as the *Cypræa teres* of Gmelin on the authority of Mr. Sowerby, though it is somewhat doubtful; it is, however, a species distinct from the *C. tabescens*, and one of great rarity. There are two specimens in the collection of Mr. Gaskoin.

Species 94. (Mus. Saul.)

CYPRÆA ALBUGINOSA. *Cypr. testā oblongo-ovatā, extremitatibus suboblusis, dentibus brevibus; dorso fulvo, violaceo-fusco picto, ocellis, numerosis albis, fusco-annulatis, ornato, lateribus violaceis, purpureo punctatis, basi violaceo-albā.*

THE WHITE-EYED COWREY. Shell oblong-ovate, extremities rather obtuse, teeth short; back fulvous, painted with violet-brown, ornamented with numerous white eyes encircled with brown rings, sides violaceous, dotted with purple, base violet-tinged white.

MAWE; Gray, Zool. Journal. vol. 1. p. 510.

Hab. California.

A richly painted violet and brown shell, closely studded with white eyes encircled with brown rings which are mostly thicker on one side than the other.

Species 95. (Mus. Cuming.)

CYPRÆA FLAVEOLA. *Cypr. testā oblongā, lateribus marginatis et foveolatis, basi depressā, dentibus subelongatis; dorso luteo-fusco, ocellis albis variis profusè ornatis, marginibus atro-fusco tinctis et punctatis, basi albā.*

THE YELLOWISH COWREY. Shell oblong, sides marginated and pitted, base depressed, teeth somewhat elongated; back yellowish brown, profusely ornamented with white eyes of various sizes, margins stained and dotted with blackish brown, base white.

LINNEUS, Syst. Nat. p. 1179. (not of Born, or Lamarck.)

Hab. — ?

Very closely allied to the following species, but differing by its more straightly oblong form, and absence of black rings. Care must be taken not to confound this shell with the *C. flaveola* of Lamarck, which is the *C. spurca*, or the *C. flaveola* of Born, which is the *C. rufa*.

Species 96. (Fig. a Mus. Cuming, Fig. b. Mus. Gaskoin.)

CYPRÆA GANGRENOSA. *Cypr. testā subpyriformi-ovatā, lateribus marginatis et foveolatis, basi subplanulatā, dentibus subelongatis; dorso olivaceo, ocellis minutis albis, annulisque perpaucis fuscis ornato, extremitatibus atro-fusco tinctis, basi albā.*

Species 97. (Mus. Cuming.)

CYPRÆA ZICZAG. *Cypr. testā subpyriformi-ovatā, umbilicatā, dentibus subelongatis; dorso albicante, lineis flavescens, undatis longitudinaliter ornato, lateribus basique rufo-aurantiis nigro vividè punctatis.*

THE ZICZAG COWREY. Shell somewhat pyriformly ovate, umbilicated, teeth rather elongated; back whitish, ornamented with longitudinal zigzag yellow lines, sides and base reddish orange brightly dotted with black.

LINNEUS, Syst. Nat. (12th edit.) p. 1177.

Hab. Mozambique (under stones); Hennah.

There is a beautiful variety of this ancient, though not abundant, species, in which the zigzag lines resolve themselves into distinct bands. The base is very similar to that of the *Cypræa lutea*.

Species 98. (Mus. Cuming.)

CYPRÆA ASELLUS. *Cypr. testā oblongo-ovatā, lateribus vix marginatis, dentibus subelongatis; eburneā, dorso fasciis tribus latis nigro-fuscis ornato.*

THE LITTLE ASS COWREY. Shell oblong-ovate, sides very slightly margined, teeth a little elongated; ivory white, back ornamented with three broad blackish-brown bands.

LINNEUS, Syst. Nat. (12th edit.) p. 1178.

Hab. West Indies.

It is curious to observe that the very characteristic dark bands of this species are not deposited at the last; they appear in all the earlier stages of growth winding round the columella, and in the adult are cut off, as it were, on each side by the superposition of a layer of ivory white.

Species 99. (Mus. Cuming.)

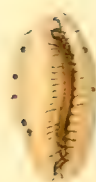
CYPRÆA PORARIA. *Cypr. testā subabbreviato-ovatā, crassiusculā, lateribus subindistinctè foreolatis, dentibus subelongatis; extremitatibus obtusis; fulvā, dorso punctis albis numerosis, quibusdam fusco-annulatis, ornato, lateribus basique purpureo-violaceis.*

THE POROUS COWRY. Shell shortly ovate, thick, sides rather indistinctly pitted, teeth a little elongated, extremities obtuse; fulvous, back ornamented with numerous white dots some of which are encircled with brown rings, sides and base purple-violet.

LINNEUS, Syst. Nat. (12th edit.) p. 1180.

Hab. Taheite, Pacific Ocean (on the reefs); Cuming.

The painting of this species is very similar to that of the *Cypræa albuginosa*, but it may always be distinguished by its more diminutive and stunted form.



CYPRÆA.

PLATE XIX.

Species 100. (Mus. Saul)

CYPRÆA NEGLECTA. *Cypr. testā oblongo-ovatā, ad extremitates subdeclivi, lateribus submarginatis, dentibus elongatis; dorso cæruleo obscure fasciato, punctis minutis fuscis maculâque grandi centrali, subquadratâ, ornato, extremitatibus maculâ nigrâ utrinque pictis, lateribus albis, nigro-punctatis, basi albâ.*

THE NEGLECTED COWREY. Shell oblong-ovate, steep at the extremities, sides slightly margined, teeth elongated, back blue, obscurely banded, ornamented with minute brown dots and a large central square spot, extremities painted with a black spot on each side, sides white, dotted with black, base white.

SOWERBY. Conch. Illus. Cat. Cypræadæ no. 66. f. 12*.

Hab. Mauritius.

Curiously intermediate between the *Cypræa stolidæ* and *hirundo*, but quite distinct from either.

Species 101. (Mus. Saul.)

CYPRÆA PUNCTATA. *Cypr. testā ovatâ, dentibus parvis, interdum brevibus, interdum per basem subelongatis; lacteâ, dorso punctis fuscis asperso, extremitatibus et dentibus aureo-flavescentibus.*

THE DOTTED COWREY. Shell ovate, teeth small, sometimes a little elongated across the base; cream-colour, back sprinkled with brown dots, teeth and extremities golden yellow.

LINNEUS Mantissa p. 548.

Hab. Philippine Islands; Cuming.

Cypræa atomaria, Gmelin.

Cypræa stercus-muscarum, Lamarck.

There appears to be two very distinct states of this species, one in which the teeth are yellow and extend partially across the base, as represented in the accompanying figure; the other in which the teeth are very fine, short and colourless.

Species 102. (Mus. Cuming.)

CYPRÆA SANGUINOLENTA. *Cypr. testâ ovatâ, dentibus brevibus, interioribus subobscuris; dorso cinereo-purpurascente fasciato, olivaceo parvè lentiginoso, maculâ*

fuscâ grandi centrali irregulari, lateribus purpureo punctatis.

THE BLOOD-SPOTTED COWREY. Shell ovate, teeth short, the inner somewhat obscure; back banded with ashy purple, sparingly freckled with olive, with a large irregular brown blotch in the centre, sides dotted with purple.

GMELIN, Syst. Nat. p. 3406.

Hab. Mouth of the Gambia, Africa (under stones); Hennah.

A well-defined species which, though not uncommon, is rarely found in fine condition.

Species 103. (Mus. Cuming.)

CYPRÆA INTERRUPTA. *Cypr. testâ oblongo-ovatâ, dentibus parvis; dorso olivaceo-ciridi lentiginoso, maculis nigricante-olivaceis subquadratis trifasciatim ornato, lateribus basique albis.*

THE INTERRUPTED COWREY. Shell oblong-ovate, slightly umbilicated, teeth small: back freckled with olive green, and ornamented with three bands of square dark olive spots, sides and base white.

GRAY, Zool. Journal, vol. i. p. 376.

Hab. Ceylon.

A species well distinguished by three interrupted bands of oblong-square spots.

Species 104. (Mus. Cuming.)

CYPRÆA HIRUNDO. *Cypr. testâ oblongo-ovatâ, dentibus subconspicuis; dorso viridescente-cæruleo nebulato et fasciato, punctis fuscis minutis asperso, lateribus fusco-punctatis, extremitatibus maculâ nigricante-fuscâ utrinque pictis, basi albidâ.*

THE SWALLOW COWREY. Shell oblong-ovate, teeth rather conspicuous; back clouded and banded with greenish blue, sprinkled with minute brown dots, sides dotted with brown, extremities painted on each side with a blackish-brown spot, base whitish.

LINNEUS, Syst. Nat. (12th edit.) p. 1178.

Hab. Eastern Seas.

According to M. Deshayes, Lamarck confounded the *Cypræa felina*, and probably one or two other species,

with this. There is a marked variety of the *C. hirundo* in which the blue painting is obsolete and the brown dots more conspicuous and numerous; the *C. Owenii* Sowerby, which name he afterwards cancelled. The *C. ursellus* of Gmelin is thought to be a worn specimen of the *C. hirundo*.

Species 105. (Mus. Cuming.)

CYPRÆA FELINA. *Cypr. testā oblongo-ovatā, lateribus submarginatis, basi depressiusculā, dentibus fortiusculis, subdistantibus; dorso viridi-cæruleo, latè trifasciato, punctis olivaceis ubique lentiginoso, lateribus flavicantibus, maculis nigris conspicuè ornatis, basi flavicante.*

THE CAT COWREY. Shell oblong-ovate, sides slightly margined, base somewhat depressed, teeth rather strong; back greenish-blue, disposed in three broad bands, freckled all over with olive dots, sides yellowish, conspicuously ornamented with black spots, base yellowish.

Variety β (Fig. *b*.)

Testa abbreviata, gibbosa, dorso elevato.

Shell shortened, gibbous, back elevated.

GRAY, Zool. Journal, vol. 1. p. 384.

Variety β . *Cypræa fabula*, Kiener.

Hab. — ?

The Variety β was specially noticed by Mr. Gray on his first introduction of the species in the Zoological Journal. It is a variation of growth common to many other species of the genus.

Species 106. (Fig. *a* Mus. Cuming; Fig. *b* Mus. Saul.)

CYPRÆA CLANDESTINA. *Cypr. testā ovatā, umbilicatā, dentibus fortibus subconspicuis; dorso incarnato-lacteo, obsoletè trifasciato, lineis rufis exilissimis, hic illic an-*

gulatim convergentibus, transversim ornato, lateribus basique eburneis.

THE CLANDESTINE COWREY. Shell ovate, umbilicated, teeth strong, rather conspicuous; back fleshy cream-colour, obsoletely three-banded, ornamented transversely with extremely faint red lines converging here and there to a point, sides and base ivory-white.

LINNEUS, Syst. Nat. (12th edit.) p. 1177.

Cypræa moniliaris, Lamarek.

Hab. Ceylon.

The faint transverse red hair-lines, converging here and there to a point, form an extremely characteristic feature in this species.

Species 107. (Mus. Saul.)

CYPRÆA QUADRIMACULATA. *Cypr. testā subcylindræo-ovatā, utrinque attenuato-rostratā, dentibus subprominulis; dorso pallidè cærulescente, olivaceo minutissimè lentiginoso, extremitatibus maculā nigricante-fuscā conspicuè ornatis, basi albā.*

THE FOUR-SPOTTED COWREY. Shell cylindrically ovate, attenuately beaked at each end, teeth rather prominent; back pale blue, very minutely freckled with olive, extremities conspicuously ornamented with a blackish brown spot on each side, base white.

GRAY, Zool. Journal, vol. 1. p. 377.

Hab. — ?

Although the *Cypræa hirundo*, *cylindrica*, and a few others are characterized by the appearance of two dark spots at each extremity, they have not the same conspicuous aspect as in the species under consideration, on account of the pale delicate colouring of the shell. The *Cypræa quadrimaculata* is moreover peculiarly distinguished by the attenuated growth of its extremities.



CYPRÆA.

PLATE XX.

Species 108. (Mus. Cuming.)

CYPRÆA VESICULARIS. *Cypr. testā globoso-inflatā, tenui, subpellucidā, striis subtilibus elevatis, hic illic bifurcatis, creberrimè ornatā; aperturā amplā, latā, labro denticulato, denticulis subdistantibus; pallidè pellucido-carneā.*

THE VESICULATED COWREY. Shell globosely inflated, thin, somewhat transparent, very closely ornamented with fine raised striæ, bifurcated here and there; aperture large, wide, lip finely toothed, teeth rather distant; pale transparent flesh-colour.

GASKOIN, Pro. Zool. Soc. 1835.

Hab. Cape of Good Hope.

Lest this interesting little species may be taken for the young of the *Cypræa oniscus*, it may be observed that the dorsal striæ are much more numerous and regular, whilst the denticulations of the outer lip are comparatively fewer in number. There is, moreover, no dorsal impression, and the striæ terminate less abruptly on the columella.

Species 109. (Mus. Cuming.)

CYPRÆA COSTATA. *Cypr. testā globoso-oblongā, tenui, inflatā, subpellucidā, latere dextro subincrassato; striis subtilibus numerosis elevatis, raro interruptis, undique ornatā; aperturā amplā, latā; pallidè roseā, apice labroque albicantibus.*

THE RIBBED COWREY. Shell globosely oblong, thin, inflated, rather transparent, right side slightly thickened; ornamented throughout with numerous fine raised striæ, rarely interrupted; aperture large, broad; pale rose, lip and apex whitish.

GMELIN, Syst. Nat. p. 3418. no. 94.

Cypræa (Trivia) carnea, Gray.

Cypræa rosea, Wood, Kiener.

Hab. — ?

I follow M. Deshayes in referring this species to the *Cypræa costata* of Gmelin; but he has erred in stating that M. Kiener has taken it for a variety of the *Cypræa oniscus*.

Species 110. (Fig. *a* and *b* Mus. Walton.

Fig. *c* Mus. Saul.)

CYPRÆA LUTEA. *Cypr. testā subpyriformi-ovatā, umbilicatā,*

lateribus marginatis, extremitatibus paululum reflexis; dorso lacteo-cæruleo, punctis luteo-fuscis irregulariter nebulatis, profusè inquinato, lateribus extremitatibus basique luteis aurantiisve, nigricante-fusco punctatis, dentibus pallidioribus.

THE YELLOW COWREY. Shell somewhat pyriformly ovate, umbilicated, sides margined, extremities a little reflexed; back milky blue, profusely bedaubed with irregularly clouded yellowish-brown dots, sides, extremities, and base, yellow or orange, dotted with dark brown, teeth paler.

Variety β Fig. 110 *c*.

Testa parva, dorso olivaceo-fuscescente, zonis duabus angustis lacteo-cæruleis.

Shell small, back olive-brown, with two narrow milky blue zones.

GRONOVIVS, Zoophylacium, fasc. 3. pl. xix. f. 17.

Cypræa Humphreysii, Gray.

Hab. — ?

I quite agree with M. Deshayes in identifying this interesting and rare species with the *Cypræa lutea* of Gronovius; the figure in the 'Zoophylacium' is perhaps a little obscure for want of colour, but the description, though short, is sufficiently characteristic;—"testa umbilicata, supra fuscescente albo-fasciata, subtus lutea punctis fuscis."

This well-known state of the shell must, however, be regarded as a variety, as we have it, in the collection of Mr. Walton, as represented at Fig. 110 *a* and *b*, of larger size and in a much more perfect and elaborately painted condition. The whole of the dorsal surface is a clear milky blue profusely bedaubed with light brown splashes, clouding one with the other.

An intermediate state has been represented by Sowerby in the Conchological Illustrations f. 55, copied so inaccurately by Kiener as to exhibit a dot-banded character entirely foreign to the species.

Species 111. (Mus. Saul.)

CYPRÆA ONISCUS. *Cypr. testā globoso-ovatā, valdè inflatā, latere dextro incrassato; striis elevatis aut vesiculis bifurcatis et rugatis ornatā, impressione lævi dorsali centrali; aperturā amplā, latissimā; columellā lævi; dorso rosaceo-carneo, basi albicante.*

February 1846.

THE WOOD-LOUSE COWREY. Shell globosely ovate, very much inflated, right side thickened; ornamented with bifurcated and wrinkled raised striæ or vesicles, with a smooth central dorsal impression; aperture large, very wide; columella smooth, back pinkish flesh-colour, base whitish.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 541.

Cypræa (Trivia) aperta, Gray.

Hab. Cape of Good Hope.

Neither of the figures in Lister and Martini to which Lamarck refers for the illustration of this species can be possibly identified with his description. The former, as M. Deshayes has already shown, represents the *C. radians*, and there is very little doubt but that the latter is intended for the same species, to which the terms "globosâ, inflatâ, albido-carneâ, immaculatâ, ventre convexâ, aperturâ latissimâ" do not apply. They apply on the other hand with such peculiar accuracy to the species under consideration, it is strange the confusion has never been detected by English writers on the genus.

Species 112. (Mus. Cuming.)

CYPRÆA OVULA. *Cypr. testâ ovato-ventricosâ, inflatâ, labro dextro incrassato; undique lævigatâ, dentibus interioribus minimis, aperturâ latissimâ; niveâ, aut rosaceo pallidè tinctâ.*

THE OVAL COWREY. Shell ovately ventricose, inflated, right lip thickened; smooth throughout, inner teeth very small, aperture very wide; snowy white, or faintly tinged with pink.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 533.

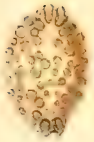
Cypræa carnea var, Gray.

Hab. — ?

Cypræa ovulata was the name first given to this shell by Lamarck, but finding, probably, that it had been already used by Gmelin in reference to the *C. cervus*, he dropped the last syllable for the sake of distinction, though both terms are sufficiently corrupt. The species is a very characteristic one, and may be easily recognised by its smooth surface.



113



114^a



114^b



115



116



116^b



117



118^a



118^b



119

CYPRÆA.

PLATE XXI.

Species 113. (Mus. Cuming.)

CYPRÆA SOLANDRI. *Cypr. testā ovatā, subventricosā, basi lateribusque rotundatis, dorso medio impresso, utrinque nodoso, costis e nodis divergentibus, dentibus exterioribus minutissimis; cinereo-fuscā.*

SOLANDER'S COWREY. Shell ovate, rather ventricose, base and sides rounded, back impressed down the middle, noded on each side, with ribs diverging from the nodules, outer teeth very minute; ash-brown.

GRAY; Sowerby, Conch. Illus. Cat. Cypræadæ, no. 128. f. 43.

Hab. California.

This species may be easily distinguished from the *Cypræa radians* by its minute row of outer teeth, there being an intermediate one between each of those terminating the ribs: it is, moreover, distinct in form, being uniformly smaller and more rounded at the base. Mr. Sowerby says "it is impossible to know which of the two is the *radians* of Lamarek"; but I think Lamarek's expression "lateribus dilatatis depressis, ventre plano" fully decisive.

Species 114. (Mus. Cuming.)

CYPRÆA ANNULATA. *Cypr. testā oblongo-ovatā, crassā, solidā, extremitatibus subrostratis, lateribus basique rotundatis, aperturā subflexuosā, angustā, dentibus minutissimis, eburneā, dorso maculis rotundis luteis saturatè annulatis, irregulariter picto.*

THE RINGED COWREY. Shell oblong-ovate, thick, solid, extremities somewhat rounded, aperture slightly flexuous, narrow, teeth very minute, concavity of the columella deep; ivory-white, back irregularly painted with round yellow spots encircled with rings of a deeper yellow.

GRAY, Zool. Journal, vol. iv. p. 88.

Hab. Isle of Annaa, Pacific Ocean (on the reefs); Cuming.

Distinguished from all other species by its solid obesity and very characteristic style of painting.

Species 115. (Mus. Cuming.)

CYPRÆA CHILDRENI. *Cypr. testā cylindraceo-oblongā, undique transversim crebricostatā, basi subdepressā,*

aperturā angustā, dentibus minutis, dorso medio exiliter impresso, extremitatibus rostratis, infra carinato-alatis; pallidè luteo-fuscescente, costis saturatioribus.

CHILDREN'S COWREY. Shell cylindrically oblong, transversely closely ribbed throughout, base a little depressed, aperture narrow, teeth minute, back faintly impressed down the middle, extremities beaked, carinately winged beneath; pale yellowish brown, ribs darker.

GRAY, Zool. Journal, vol. i. p. 518.

Hab. Isle of Annaa, Pacific Ocean (on the reefs); Cuming.

This is the only species at present known with the peculiar wing-like appendages, above described, at the base of the extremities.

Species 116. (Mus. Cuming.)

CYPRÆA CICERULA. *Cypr. testā ovatā, turgidā, dorso peculiariter elevato, granuloso, medio sulco lineari impresso, aperturā angustā, dentibus subelongatis, extremitatibus rostratis, productis; luteā aut fulvo-albicante, dorso fusco irregulariter maculatā, lateribus fusco-punctatis, basi maculis quaternis castaneis conspicuè pictā.*

THE CHICK-PEA COWREY. Shell ovate, turgid, back peculiarly elevated, granulous, impressed with a linear groove down the middle, aperture narrow, teeth rather elongated, extremities beaked, produced; yellow or fulvous white, back irregularly blotched with brown, sides dotted with brown, base conspicuously painted with four chesnut spots.

LINNÆUS, Syst. Nat. (12th edit.) p. 1181.

Hab. Isle of Annaa, Pacific Ocean (on the reefs); Cuming.

The back of this species is peculiarly elevated and granulous, whilst the base presents a characteristic feature in the four chesnut spots.

Species 117. (Mus. Cuming.)

CYPRÆA RADIANS. *Cypr. testā rotundato-ovatā, lateribus dilatatis, basi depressā, extremitatibus retusis, dorso medio latiusculè impresso, utrinque nodoso, costis e nodis divergentibus; cinereo-fuscā, dorso maculā nigricante tincto.*

THE RADIATING COWREY. Shell rotundately ovate, sides

dilated, base depressed, extremities blunt, back rather broadly impressed down the middle, nodose on each side, with ribs diverging from the nodules; ash-brown, back stained with a blackish blotch.

LAMARCK, Anim. sans vert. vol. x. p. 540.

Hab. St. Elena, West Columbia (under stones); Cuming.

Characterized by its depressed growth and dilated margin.

Species 118. (Mus. Cuming.)

CYPRÆA GLOBULUS. *Cypr. testâ cylindraceo-oblongâ, dorso lævi, sulco obsoleto aut nullo, aperturâ angustâ, dentibus subelongatis, extremitatibus rostratis, productis; dorso fulvo-luteo, fusco subobscurè punctato, lateribus extremitatibusque rufo-aurantiis.*

THE LITTLE GLOBE COWREY. Shell cylindrically oblong, back smooth, dorsal groove obsolete or entirely wanting, aperture narrow, teeth rather elongated, extremities beaked, produced; back fulvous yellow, rather obscurely dotted with brown, sides and extremities reddish orange.

LINNÆUS, Syst. Nat. (12th edit.) p. 1181.

Hab. East Indies.

Fully distinguishable from the *Cypræa cicercula*, to

which it so nearly approximates in general appearance, by the absence of the dorsal groove, the granules, and the four chesnut spots of the base; it is also of a more oblong cylindrical form.

Species 119. (Mus. Saul.)

CYPRÆA MAUGERIE. *Cypr. testâ subpyriformi-ovatâ, latere dextro marginato, posticè subproducto, undique transversim creberrimè costatâ, costis subirregulariter flexuosis, interstitiis scabriusculis, dorso medio lineari-impresso; fulvo-rosaceâ, dorso maculâ grandi fuscescente obscurè tincto, latere dextro rosaceo.*

MAUGER'S COWREY. Shell somewhat pyriformly ovate, right side margined, a little produced posteriorly, transversely very closely ribbed throughout, ribs somewhat irregularly flexuous, interstices roughish, back impressed down the middle with a narrow groove; fulvous rose colour, back obscurely stained with a large faint brown blotch, right side pink.

GRAY; Sowerby, Conch. Illus. Cypræadæ, no. 111. f. 30.

Hab. Gallapagos Islands; Cuming.

An extremely delicate species of which the fine example here figured from the collection of Miss Saul is larger than any other specimen I have seen.



120



121^b



121^a



122



123^b



123^a



124



125^b



125^a



126

CYPRÆA.

PLATE XXII.

(All magnified to twice their length except Fig. 122 and 124.)

Species 120. (Mus. Cuming.)

CYPRÆA GOODALLI. *Cypr. testā oblongo-ovatā, lateribus submarginatis, basi depressā, dentibus parvis; niveā, dorso maculā grandi irregulari aurantio-fuscā picto, lateribus fusco-punctatis.*

GOODALL'S COWREY. Shell oblong-ovate, sides slightly margined, base depressed, teeth small; snowy white, painted with a large irregular orange-brown blotch, sides dotted with brown.

GRAY; Sowerby, Conch. Illus. Cypræadæ. no. 76. f. 16.
Hab. Lord Hood's Island, Pacific Ocean (on the sands); Cuming.

A delicate snowy white shell conspicuously stained on the back with a large square irregularly reticulated bright orange-brown blotch.

Species 121. (Mus. Gaskoin.)

CYPRÆA CONTAMINATA. *Cypr. testā subpyriformi-ovatā, lateribus submarginatis, dentibus parvis, extremitatibus subproductis, reflexis; dorso carneo-fuscescente subobscurè fasciato, minutissimè pallidè fusco-punctato, maculā fuscā centrali, lateribus basique fusco conspicuè punctatis.*

THE DISTAINED COWREY. Shell somewhat pyriformly ovate, sides slightly margined, teeth small, extremities rather produced, reflexed; back fleshy brown, obscurely banded, dotted with pale brown, with a central brown spot, base and sides conspicuously dotted with dark brown.

GRAY; Sowerby, Conch. Illus. Cypræadæ no. 96. f. 21.
Hab.——?

An interesting well-defined species in the collection of Mr. Gaskoin of which Mr. Cuming also possesses an example.

Species 122. (Mus. Brit.)

(Natural size.)

CYPRÆA GASKOINI. *Cypr. testā subabbreviato-ovatā, solidiusculā, lateribus incrassatis, marginatis, dentibus fortiusculis; dorso fulvo-stramineo, ocellis albidis, fusco annulatis, parviusculis, sparsim ornato, lateribus castaneo-punctatis, basi albā.*

GASKOIN'S COWREY. Shell somewhat shortly ovate, rather solid, sides thickened, margined, teeth rather strong; back yellowish straw-colour, sparingly ornamented with rather small white eyes, encircled with pale brown rings, sides dotted with chesnut, base white.

REEVE, Pro. Zool. Soc. 1846.

Hab.——?

This interesting species of which I have seen two specimens, one in the British Museum and one in the collection of Mr. Gaskoin, partakes of the characters of the *Cypræa Cumingii* and *esontropia*, bearing such a relation to the former as the latter does to the *C. cribraria*. The sides are stoutly thickened and spotted like the *C. esontropia*, and the back is covered with the same kind of small clear ringed eyes as the *C. Cumingii*. As the accompanying figure has rather a diminutive appearance in comparison with the surrounding species, it may be as well to call attention to the circumstance of the outer figures of this plate being considerably magnified, whilst the two in the centre are of the natural size. I dedicate it with a great deal of pleasure to J. S. Gaskoin Esq., a gentleman to whom we are much indebted not only for the liberal use of a collection of *Cypræa* exhibiting almost every imaginable variety of growth and colour of each species, but for his essential services in working out the small ribbed kinds which constitute Mr. Gray's genus *Trivia*.

Species 123. (Mus. Cuming.)

CYPRÆA MARGARITA. *Cypr. testā pyriformi-ovatā, lateribus submarginatis et foveolatis, extremitatibus rostratis, productis, aperturā subflexosā, angustā, dentibus parvis; pallidè stramineā; dorso ocellis albis grandibus parvisque, lineā dorsali pallidā flexuosā, profusè ornato, basi eburneā, immaculatā.*

THE PEARL COWREY. Shell pyriformly ovate, sides slightly margined and pitted, extremities beaked, produced, aperture rather flexuous, narrow, teeth small; pale straw-colour, back profusely ornamented with large and small white eyes, with a pale flexuous dorsal line, base ivory white, unspotted.

SOLANDER; Gray, Zool. Journal vol. iv. p. 87.

February 1846.

Hab. Isle of Annaa, Pacific Ocean (on the reefs); Cuming.

This extremely delicate and graceful species appears to have been known to 'old Humphrey' as 'The pearl-porcelain Cowrey'. The peculiarity in its style of painting is that there are two distinct systems of spots of different magnitude, which are not encircled with rings.

Species 124. (Mus. Gaskoin.)

(Natural size.)

CYPRÆA CINEREA. *Cypr. testā ovato-ventricosā, interdum oblongā, lateribus subincrassatis, dentibus brevisculis; dorso cinereo-fusco, trifasciato, punctis oblongis atris interdum longitudinaliter picto, lateribus carneis, punctis atris numerosis peculiariter confusè inquinatis, basi flavicante, dentium interstitiis roseo-carneis.*

THE ASH COWREY. Shell ovately ventricose, sometimes oblong, sides rather thickened, teeth rather short; back ash-brown, three-banded, sometimes longitudinally painted with jet black oblong dots, sides flesh-tinted, peculiarly confusedly stained with numerous jet black dots, base yellowish, interstices between the teeth pinkish flesh-colour.

Gmelin, Syst. Nat. p. 3402.

Eadem, *Cypræa sordida* Lamarck.

Hab. West Indies (under stones); Guilding.

The black-dotted painting which so strongly characterizes this species is perhaps less constant than the pinkish flesh-colouring between the columellar teeth, of which I have invariably noticed indications where the first-mentioned character was wanting.

Species 125. (Mus. Cuming.)

CYPRÆA BECKII. *Cypr. testā subpyriformi-ovatā, lateribus submarginatis et foveolatis, extremitatibus subrotatis et reflexis, aperturā subflexuosā, dentibus parvis, fortiusculis; fulvā, dorso ocellis grandibus parvisque*

albis ornato, ocellis grandibus castaneo pupillatis, lateribus castaneo-punctatis, basi ad dentes exteriores castaneo lineo-punctatā.

BECK'S COWREY. Shell somewhat pyriformly ovate, sides slightly margined and pitted, extremities a little beaked and reflexed, aperture rather flexuous, teeth small, rather strong; fulvous yellow, back ornamented with large and small white eyes, of which the large are pupilled with chesnut, sides dotted with chesnut, linearly dotted at the outer teeth with chesnut brown.

GASKOIN, Pro. Zool. Soc. 1835.

The *C. Beckii* approximates very closely in form to the *C. margarita*, and like that species it has two distinct sizes of white eyes; it differs, however, in having the range of larger spots pupilled with chesnut brown, the sides dotted with chesnut-brown, and the outer teeth each marked on the base with a chesnut-brown linear dot. In a specimen kindly remitted to me by M. Deshayes the form is less pear-shaped and the extremities more obtuse.

Species 126. (Mus. Cuming.)

CYPRÆA IRRORATA. *Cypr. testā ovato-oblongā, lateribus submarginatis, basi depresso-planā; dorso pallide purpureo-cærulescente, obscurè fasciato, punctis numerosis fulvo-fuscis, latera versus saturatioribus, copiosè adsperso, basi albidā, immaculatā.*

THE BEDEWED COWREY. Shell ovately oblong, sides slightly margined, base depressly flattened; back pale purple-blue, obscurely banded, copiously sprinkled with fulvous brown spots which are darker in colour towards the sides, base whitish, unspotted.

SOLANDER; Gray, Zool. Journal, vol. iv. p. 80.

Hab. Elizabeth Island (on the sands); Cuming.

It would be difficult to confound this with any other species, so peculiar is it both in form and style of colouring.



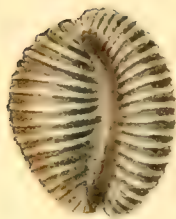
17.



18.



19.



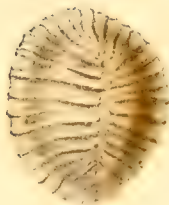
20a.



21.



22.



23.

CYPRÆA.

PLATE XXIII.

(All magnified to twice their natural length).

Species 127. (Mus. Cuming.)

CYPRÆA SANGUINEA. *Cypr. testā ovatā, dorso elevato, lateribus dilatatis, radiatim costatā, impressione dorsali vix nullā; nigricante-purpureo-fuscā, dorso maculā sanguineā, utrinque albidā, medio tincto.*

THE BLOOD-STAINED COWREY. Shell ovate, back elevated, sides dilated, radiately ribbed, with scarcely any dorsal impression, blackish purple-brown, back stained in the middle with a blood-red spot, whitish on each side.

GRAY; Sowerby, Conch. Illus. Cypræadæ, no. 115. f. 32.
Trivia sanguinea, Gray.

Hab. St. Elena, West Columbia (under stones); Cuming.

A very dark purple-brown shell with a blood-stain, whitish at each end, in the middle.

Species 128 (Mus. Cuming.)

CYPRÆA CALIFORNICA. *Cypr. testā ovatā, subglobosā, lateribus vix dilatatis; undique costatā, costis subdistantibus, impressione dorsali vix nullā; purpureo-fuscā, dorso medio pallido, dentibus albidis.*

THE CALIFORNIAN COWREY. Shell ovate, rather globose, sides scarcely dilated; ribbed throughout, ribs rather distant, with scarcely any dorsal impression; purple-brown, back pale in the middle, teeth whitish.

GRAY, Zool. Journal, vol. iii. p. 365.

Trivia Californica, Gray.

Hab. California.

Distinguished from the preceding species by its smaller and more rounded form, whilst the ribs are stouter and wider apart.

Species 129. (Mus. Cuming.)

CYPRÆA EUROPEA. *Cypr. testā ovatā, subventricosā, latere dextro submarginato; transversim undique crebricostatā, impressione dorsali nullā; carneo-fulvā, fusco, præcipuè prope apicem, sparsim maculatā, basi albā.*

THE EUROPEAN COWREY. Shell ovate, somewhat ventricose, right side slightly margined; transversely closely ribbed throughout, with no dorsal impression,

flesh-tinged fulvous, sparingly spotted, especially near the apex, with brown, base white.

MONTAGU, Testacea Britannica, Supp. p. 88.

Cypræa coccinella, Lamarek.

Trivia Europæa, Gray.

Varietas pallida immaculata.

Cypræa arctica, Montagu.

Testa juvenis pellucida.

Cypræa bullata, Montagu.

Hab. Shores of Britain, &c.

The spots of this well-known species are very undefined; it may, however, be observed, that it is generally most deeply stained in the vicinity of the apex.

Species 130. (Mus Gaskoin.)

CYPRÆA LABIOSA. *Cypr. testā rotundato-ovatā, subdepressā, lateribus dilatatis et marginatis, extremitatibus retusis; dorso medio sulcato, utrinque nodoso, costis fortiusculis, subdistantibus, e nodis divergentibus; dorso carneo-fuscescente, maculis senis nigricantibus ornato, lateribus basique cinereo-fuscis, costis albicantibus.*

THE FULL-LIPPED COWREY. Shell rotundately ovate, rather depressed, sides dilated and margined, extremities retuse, back grooved down the middle, noduled on each side, with rather strong and somewhat distant ribs diverging from the nodules; back fleshy brown, ornamented with six dark spots, sides and base ash-brown, ribs whitish.

GASKOIN, Pro. Zool. Soc. 1835.

Hab. —?

I am rather inclined to think, with M. Gaskoin, that this shell is distinct from the *C. pediculus*; without reference to its more depressly dilated form and difference of colour, the ribs are much fewer in number, and developed with greater force and regularity.

Species 131. (Mus. Cuming.)

CYPRÆA PEDICULUS. *Cypr. testā ovatā, subventricosā, lateribus submarginatis, dorso medio sulcato, utrinque noduloso, costis subtiliusculis numerosis e nodulis divergentibus; carneo-alicante, fuscescente, præcipuè ad*

latera, marmoratâ et punctatâ, dorso maculis senis nigricantibus ornato.

THE LOUSE COWREY. Shell ovate, rather ventricose, sides slightly margined, back grooved down the middle, nodulous on each side, with numerous rather fine ribs diverging from the nodules; fleshy white, marbled and dotted, especially towards the sides, with pale brown, back ornamented with six black blotches.

LINNEUS, Syst. Nat. (12th edit.) p. 1180.

Cypræa sulcata, Dillwyn.

Trivea pediculus, Gray.

Hab. West Indies.

Linnæus may have confounded two or three species under this head, but I think his specific name should be reserved for that which is without doubt the type of the group.

Species 132. (Mus. Cuming.)

CYPRÆA FORMOSA. *Cypr. testâ globosâ, tenui, subinflatâ, latere dextro submarginato, undique transversim creberrimè tenuicostatâ; roseo-albicante, sericeo-nitente, dorso carneo-fuscescente pallidissimè tincto, basi albâ.*

THE BEAUTIFUL COWREY. Shell globose, thin, rather inflated, right side slightly margined, transversely very closely finely ribbed throughout; pinkish white,

shining like silk, back very faintly stained with fleshy brown, base white.

GASKOIN, Pro. Zool. Soc. 1835.

Hab. Cape of Good Hope.

A very characteristic species distinguished from the *C. Europæa* by its globose and more inflated growth and finer ribs, whilst there is a marked peculiarity in the delicacy of its colouring.

Species 133. (Mus. Saul.)

CYPRÆA DEPAUPERATA. *Cypr. testâ suborbiculari, depressâ, lateribus dilatatis, subincrassatis, extremitatibus retusis, dentibus subtilibus, dorso medio lineari-sulcato, costis subdistantibus utrinque divergentibus; pallidè cinereo-fuscâ, immaculatâ, basi carneo-tinctâ.*

THE IMPOVERISHED COWREY. Shell nearly orbicular, depressed, sides dilated, rather thickened, extremities retuse, teeth fine, back linearly grooved down the middle, with rather distant ribs diverging on each side; pale ash-brown, unspotted, base flesh-tinged.

SOWERBY, Conch. Illus. Cypræadæ, no. 130. f. 49.

Hab. ———?

Allied to the *C. radians*, but differing in that the dorsal groove is perfectly linear, without nodules on either side; and it is of a paler ash colour.



154



155 b.



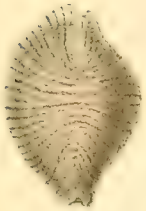
155 a.



156



157 b.



157 a.



158



159 b.



159 a.



160

CYPRÆA.

PLATE XXIV.

(All magnified to twice their natural length.)

Species 134. (Mus. Gaskoin.)

CYPRÆA FUSCA. *Cypr. testā ovatā, latere dextro subincrassato, transversim undique costatā, costis tenuibus impressione dorsali obsoletā; undique fuscā.*

THE BROWN COWREY. Shell ovate, right side slightly thickened, transversely ribbed throughout, ribs fine, with an obsolete dorsal impression; brown throughout. GRAY; Sowerby, Conch. Illus. Cypræadæ, no. 120. f. 37. *Trivea fusca*, Gray.

Hab. Gallapagos Islands, and Bay of Guayaquil; Cuming.

There is some character in the colouring of this species, it being of an uniform dull brown without any tinge of that dark crimson which is so conspicuous in the *C. sanguinea*.

Species 135. (Mus. Cuming.)

CYPRÆA ADAMSONII. *Cypr. testā Ovuliformi, solidiusculā, latere dextro crasso, marginato; transversim undique crebricostatā, costis lævibus, extremitatibus subrostratis, productis; albā, aurantio-fusco conspicuè maculatā.*

ADAMSON'S COWREY. Shell Ovulum-shaped, rather solid, right side thick and margined; transversely closely ribbed throughout, ribs smooth, extremities slightly beaked, produced; white, conspicuously blotched with orange-brown.

GRAY; Sowerby, Conch. Illus. Cypræadæ, no. 107. f. 7.

Hab. Isle of Capul, Philippines; Cuming.

An extremely characteristic species and the nearest approach in form to the genus *Ovulum*.

Species 136. (Mus. Cuming.)

CYPRÆA NIVEA. *Cypr. testā globosā, extremitatibus valde obtusis, transversim undique costatā, costis angustis, corrugatis, subprominentibus, dorso sulco lineari impresso; pellucido-albā.*

THE SNOW-WHITE COWREY. Shell globose, extremities very obtuse, transversely ribbed throughout, ribs narrow, wrinkled, rather prominent, back impressed with a linear groove; transparent white.

GRAY; Zool. Journal. vol. iii. p. 369.

Hab. — ?

This species has a peculiar globose form, very like that of a coffee-berry. M. Kiener has figured a *C. nivea* for the *C. scabriuscula* of Gray, which is Lamarck's *C. oryza*.

Species 137. (Mus. Gaskoin.)

CYPRÆA PRODUCTA. *Cypr. testā ovatā, lateribus subdilatatis, extremitatibus peculiariter productis, basi depressā, columellā acutangulā; transversim undique tenuicostatā, impressione dorsali nullā; albā.*

THE PRODUCED COWREY. Shell ovate, sides a little dilated, extremities peculiarly produced, base depressed, columella sharp-angled; transversely finely ribbed throughout, with no dorsal impression; white.

GASKOIN, Pro, Zool. Soc., 1835, p. 200.

Hab. — ?

A white shell of very peculiar form, approximating nearest to that of the brown *Cypræa sanguinea*.

Species 138. (Mus. Saul.)

CYPRÆA AUSTRALIS. *Cypr. testā oblongo-ovatā, tenuiculā, paululum inflatā, apice subconspicuo, latere dextro marginato; transversim undique tenuissimè costatā, costis supra lævibus, subobsoletis, impressione dorsali nullā, aperturā subamplā; albidā, dorso maculis fusciscentibus grandibus duabus vel tribus subirregulariter picto, extremitatibus roseis.*

THE SOUTHERN COWREY. Shell oblong-ovate, rather thin, a little inflated, apex rather conspicuous, right side marginated; transversely very finely ribbed throughout, ribs smooth above, rather obsolete, with no dorsal impression, aperture rather wide; whitish, somewhat irregularly painted with two or three light brown blotches, extremities tinged with rose.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. x. p. 545.

Trivia australis, Gray.

Hab. New Holland.

Distinguished by its colouring and light inflated growth.

Species 139. (Mus. Gaskoin.)

CYPRÆA MICRODON. *Cypr. testā subelongato-ovatā, plano-umbilicatā, anticè subattenuatā et rostratā, lateribus marginatis, basi depressā, aperturā flexuosā, dentibus brevibus minutis; albā, dorso lineis undatis aurantio-fuscis concinnè trifasciato, extremitatibus utrinque roseis.*

THE SMALL-TOOTH COWREY. Shell somewhat elongately ovate, flatly umbilicated, anteriorly rather attenuated and beaked, sides margined, base depressed, aperture flexuous, teeth minute; white, encircled with three

neat bands of waved orange-brown lines, extremities tipped on each side with pink.

GRAY, Zool. Journal, vol. iv. p. 71.

Hab. Isle of Ticao, Philippines; Cuming.

Care should be taken not to confound a small variety of the *C. fimbriata* with this species, which is distinguished from it by its attenuated form, minute teeth and peculiarity of colouring.

Species 140. (Mus. Gaskoin.)

CYPRÆA ORYZA. *Cypr. testā ovatā, latere dextro vix marginato, transversim undique tenuissimè costatā, cos-*

tarum interstitiis peculiariter scabris, impressione lineari dorsali; niveā.

THE RICE-GRAIN COWREY. Shell ovate, right side scarcely margined, transversely very finely ribbed throughout, interstices between the ribs peculiarly rough, with a linear dorsal impression; snowy white.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. x. p. 543.

Cypræa scabriuscula, Gray.

Varietates?

Cypræa hordacea and *intermedia*, Kiener.

Hab. Isle of Ticao, Philippines; Cuming.

Of a rounded oblong oval form, the ribs being very fine, and the interstices of a peculiarly roughish character.



141



142 a



143



144



145



146



147



148



149



150

CYPRÆA.

PLATE XXV.

(All magnified to two and a half times their natural length.)

Species 141. (Mus. Gaskoin.)

CYPRÆA RUBESCENS. *Cypr. testâ globoso-ovatâ, latere dextro incrassato, marginato, transversim undique tenuicostatâ, columellâ concavâ, acutangulâ, impressione dorsali nullâ; rubescente vel pallidè roseâ, basi albicante.*

THE REDDISH COWREY. Shell globosely ovate, right side thickened, margined, transversely finely ribbed throughout, columella hollow, sharp-angled, with no dorsal impression; pale red or pink, base whitish.

GRAY; Pro. Zool. Soc., 1832, p. 185.

Hab. Galapagos Islands (under stones); Cuming.

The *C. rubescens* is rather a solid shell than otherwise.

Species 142. (Mus. Cuming.)

CYPRÆA SUFFUSA. *Cypr. testâ oblongo-ovatâ, latere dextro extremitatibusque marginatis, transversim undique tenuicostatis, costis vix granosis, sulco dorsali conspicuo; roseo-albicante, costis fusco promiscuè variegatis et punctatis, extremitatibus roseis, basi albidâ.*

THE SPRINKLED COWREY. Shell rather oblong-ovate, right side and extremities slightly thickened and margined, transversely finely ribbed throughout, ribs scarcely granose, with a conspicuous dorsal groove; pinkish-white, ribs promiscuously variegated and dotted with brown, extremities pink, base whitish.

GRAY; Sowerby, Conch. Illus. Cypræadæ, no. 126. f. 41.

Cypræa armandina, Duclos.

Hab. Gallapagos Islands; Cuming.

Distinguished by the sprinkled brown painting of the ribs.

Species 143. (Mus. Cuming.)

CYPRÆA PACIFICA. *Cypr. testâ oblongo-ovatâ, latere dextro submarginato, extremitatibus leviter productis, basi depressâ; transversim undique costatâ, costis tenuibus subcorrugatis, sulco dorsali conspicuo; dorso pallidè cinereo aut fuscescente, punctis maculisque fuscis ad utrumque latus sulci dorsalis alternantibus suffuso, extremitatibus roseis, basi albicante.*

THE PACIFIC COWREY. Shell oblong-ovate, right side slightly margined, extremities a little produced, base depressed, transversely ribbed throughout, ribs fine, rather wrinkled, with a conspicuous dorsal groove; pale ash or very light brown, back suffused with brown dots and spots alternating on each side the dorsal groove, extremities pink, base whitish.

GRAY, Pro. Zool. Soc., 1832.

Hab. Gallapagos Islands (under stones); Cuming.

Well characterized by the alternating spots.

Species 144. (Mus. Gaskoin.)

CYPRÆA PULEX. *Cypr. testâ ovatâ, latere dextro submarginato, transversim undique subtilissimè costatâ, costis supra lævibus vel obsolete, impressione dorsali vix nullâ; dorso cinereo-fusco, lateribus basique albis.*

THE FLEA COWREY. Shell ovate, right side a little margined, transversely very finely ribbed throughout, ribs smooth or obsolete at the top with scarcely any dorsal impression; back ashy brown, sides and base white.

SOLANDER, MSS.; Gray, Zool. Journ., vol. iii. p. 368.

Hab. Mediterranean.

This well-known species exhibits a great deal of character in the smoothness of the dorsal ribs.

Species 145. (Mus. Gaskoin.)

CYPRÆA RUBINICOLOR. *Cypr. testâ globoso-ovatâ, crassiusculâ, latere dextro incrassato marginato, extremitatibus obtuso-productis, transversim undique costatâ, costis tenuissimis impressione dorsali nullâ; roseo-carneâ, extremitatibus pulchrè roseo-rubris.*

THE RED-COLOURED COWREY. Shell globosely ovate, rather thick, right side thickened, margined, extremities obtusely produced, transversely ribbed throughout, ribs very fine, with no dorsal impression; pinkish flesh-colour, extremities prettily tinged with rose-red.

GASKOIN, Pro. Zool. Soc., 1835.

Hab. — ?

This is without doubt a very distinct species; it may have somewhat the form of the *C. sanguinea*, but in colour and in the structure of the ribs it is quite dissimilar.

Species 146. (Mus. Cuming.)

CYPRÆA QUADRIPUNCTATA. *Cypr. testâ rotundato-ovatâ, extremitatibus obtusis, transversim undique subtilissimè costatâ, sulco lineari dorsali; pellucido-roseâ, dorso punctis rubidis quaternis conspicuis, quarum duabus ad utrumque latus sulci dorsalis alternantibus, ornato.*

THE FOUR-DOTTED COWREY. Shell rotundately ovate, extremities obtuse, transversely very finely ribbed, with a linear dorsal groove; transparent rose, back ornamented with four conspicuous red dots, two on each side the dorsal groove, alternating one with the other.

GRAY, Zool. Journal, vol. iii. p. 368.

Cypræa rotunda, Kiener.

Hab. Philippine Islands; Cuming.

Easily distinguished by the four dorsal red dots.



148 c



149



150



151



152

CYPRÆA.

PLATE XXVI.

Species 147. (Mus. Gaskoin.)

CYPRÆA SUBROSTRATA. *Cypr. testâ rotundato-ovatâ, latere dextro marginato, extremitatibus obtuso-rostratis; transversim subtilissimè costatâ, sulco dorsali subconspicuo; undique nigricante-fuscâ.*

THE SLIGHTLY-BEAKED COWREY. Shell rotundately ovate, right side margined, extremities obtusely beaked; transversely very finely ribbed, with a rather conspicuous dorsal groove; blackish brown throughout.

GRAY, Zool. Journal, vol. iii. p. 363.

Hab. — ?

A dark chocolate-brown species distinguishable by its rounded form and slightly beaked extremities.

Species 148. (Mus. Gaskoin.)

CYPRÆA TREMEZA. *Cypr. testâ ovatâ, extremitatibus subattenuatis et rostratis; transversim subtiliter costatâ; albâ, roseo vividè variegatâ et maculatâ.*

THE ROSE-SPOTTED COWREY. Shell ovate, extremities, somewhat attenuated and beaked; transversely finely ribbed; white, stained and variegated with bright rose.

DUCLOS, Magasin de Zoologie, 1833.

Cypræa exigua, Gray.

Hab. West Indies; Duclos.

An extremely characteristic species, delicately painted with rich rose-pink.

Species 149. (Mus. Gaskoin.)

CYPRÆA NAPOLINA. *Cypr. testâ ovatâ, latere dextro incrassato, marginato, extremitatibus subproductis; transversim undique costatâ, costis crebris, subobesis, sulco dorsali nullo; albâ, dorso pallidissimè fuscescente, maculis duabus tribusve cinereo-nigricantibus exilissimè tincto.*

THE FAINTLY-SPOTTED COWREY. Shell ovate, right side thickened, margined, extremities a little produced, transversely ribbed throughout, ribs close-set, rather stout, without any dorsal groove; white, back very pale brown, stained with two or three faint ashy-black spots.

DUCLOS; Kiener, Icon. Coq. viv. pl. 53. f. 3.

Hab. Senegal.

There is a peculiarity in the colouring of this species which, carefully observed, serves amply to distinguish it from the *C. Europæa*, with which it is nearly allied.

Species 150. (Mus. Saul.)

CYPRÆA PULLA. *Cypr. testâ rotundo-ovatâ, subventricosâ, extremitatibus subobtusis; transversim subtiliter costatâ, sulco dorsali nullo; nigricante-fuscâ.*

THE BROWN-COLOURED COWREY. Shell ovate, slightly ventricose, extremities, a little obtuse, transversely finely ribbed, with no dorsal groove; dark reddish brown.

GASKOIN, Pro. Zool. Soc. 1846.

Hab. — ?

Very like the *C. subrostrata*, but upon examination it will be found to be rather more oblong in form, and without any distinct dorsal groove; the colour is also of a more transparent character.

Species 151. (Fig. 151 and 154, Mus. Gaskoin.)

CYPRÆA CANDIDULA. *Cypr. testâ globoso-ovatâ, lateribus subdilatatis, margine incrassatis; transversim undique costatâ, costis fortibus, subconspicuis; nivèâ.*

THE LITTLE WHITE COWREY. Shell globosely ovate, sides somewhat dilated, thickened at the edge; transversely ribbed throughout, ribs strong, rather conspicuous; snowy white.

GASKOIN, Pro. Zool. Soc., 1835.

Hab. Mexico.

This interesting little species may be distinguished by the forcible character of the ribs; as a proof of its specific importance Mr. Gaskoin relates the circumstance of it having been almost simultaneously described in two other cities of Europe, in Paris by M. Duclos under the name of *C. olorina*, and in Copenhagen by Dr. Beck under that of *C. approximans*.

Species 152. (Mus. Cuming.)

CYPRÆA GLOBOSA. *Cypr. testā peculiariter globosā, transversim costatā, sulco lineari dorsali conspicuo; niveā.*

THE GLOBOSE COWREY. Shell peculiarly globose, transversely ribbed, with a conspicuous dorsal groove; snowy white.

GRAY; Sowerby, Conch. Illus. Cypræadæ, no. 117.

Cypræa pilula, Kiener.

Hab. — ?

The globose pea-like form of this species, the smallest of the genus, is truly characteristic.

Species 153. (Mus. Gaskoin.)

CYPRÆA PELLUCIDULA. *Cypr. testā ovatā, extremitatibus subattematis et rostratis, transversim undique costatis, costis tenuibus, subirregularibus, sulco dorsali nullo; niveā.*

THE RATHER-PELLUCID COWREY. Shell ovate, extremities somewhat attenuated and beaked, transversely ribbed throughout, ribs fine, rather irregular, with no dorsal groove; snowy white.

GASKOIN, Pro. Zool. Soc., 1846.

Hab. South Pacific.

A new snowy white species approximating in form to the *C. tremeza*; it differs, however, in being rather more gibbous, and in having a greater number and finer ribs, without any dorsal impression.

Species 154. (Mus. Gaskoin.)

CYPRÆA PISUM. *Cypr. testā globosā, ventricosā, latere dextro subincrassato; transversim undique costatā, costis numerosis, angustis, prominentibus, sulco dorsali subconspicuo; carneo-fuscescente.*

THE PEA COWREY. Shell globose, ventricose, right side rather thickened, transversely ribbed throughout, ribs numerous, narrow, prominent, with a rather conspicuous dorsal groove; pale fleshy brown.

GASKOIN, Pro. Zool. Soc., 1846.

Hab. East Indies.

A very distinct and characteristic species, approaching nearest in general aspect to the *C. formosa*, for which I have been indebted to Mr. Gaskoin since the accompanying plate was engraved. The shell represented at *Fig. 154* is the *C. candidula*.



nb



nc



nd



ne



nf



ng



nh



ni



nj

CYPRÆA.

PLATE XXVII.

So different is the appearance presented by the *Cypræa* in an early stage of growth to that which they assume at a more advanced period, that I have thought it necessary to figure a few of the most interesting species during the Bulla-like state of their existence; that is, when the columella shows itself most distinctly to be the axis of growth, and before the outer lip is inflexed or exhibits any indication of teeth. As of form, so also are there differences of colour and design; and the changes in both instances are very dissimilar. The following series includes some of the most remarkable.

CYPRÆA MAURITIANA. *Fig. 1 c.* Pale buff brown, encircled with three broad bands of darker brown clouded waves, the waves of the posterior band striking out of the suture; columella white; interior pale purple. Spire acuminated.

CYPRÆA ARGUS. *Fig. 8 b.* Pale yellowish fawn colour, encircled with three or four narrow enlarging bands, very irregularly stained here and there with oblong-square spots of which there are no traces in the adult; columella white. Spire peculiarly flattened.

CYPRÆA SCOTTII. In its first state (*Fig. 10 b* and *c*) a pure bright uniform milky orange, with the columella ivory-white; it then assumes a blueish tinge disposed

in obscure bands, and begins to show (*Fig. 10 d*) a few bright tortoise-shell brown blotches, as exhibited in the adult, before there is the slightest inflexion of the lip, or any indication of teeth. This is an arrangement different to that of most of the Cowries, in which the teeth are chiefly developed before there is any appearance of the spotted pattern with which the adult is ornamented. Spire prominent.

CYPRÆA TIGRIS. In its first state (*Fig. 12 c*) a clear rather dark chesnut brown, encircled with faintly shaded bands, with the columella white; the chesnut coating then disappears by a superincumbent layer of cream coloured enamel, encircled with five bands of close set oblong blueish-brown spots (*Fig. 12 d*), splashed irregularly with clouded stains of yellowish brown. Spire rather depressed.

CYPRÆA EXANTHEMA. *Fig. 16 b.* An uniform fawn brown, encircled with five broad bands of a darker colour, no appearance of spots, waves, or any description of marking; interior rich purple; columella white. Spire acuminated.

CYPRÆA CARNEOLA. *Fig. 19 b.* Colour and bands exactly as in the adult; columella white.

March 1846.

CYPRÆA.

[Temporary Index.]

	Plate.	Species.		Plate.	Species.
<i>achatidea</i> , Sowerby	XII.	47	<i>conspurcata</i> , Gmelin	V.	15
<i>achatina</i> , Solander	VIII.	28	<i>contaminata</i> , Gray	XXII.	121
<i>acicularis</i> , Gmelin	XIV.	68	<i>controversa</i> , Gray	XII.	51
<i>Adamsoni</i> , Gray	XXIV.	135	<i>costata</i> , Gmelin	XX.	109
<i>adusta</i> , Lamarck	X.	39	<i>cribraria</i> , Linnæus	XVI.	81
<i>albuginosa</i> , Mawe	XVIII.	94	<i>cruenta</i> , Gmelin	X.	38
<i>Algoensis</i> , Gray	XVII.	90	<i>Cumingii</i> , Gray	XVI.	77
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<i>angustata</i> , Gray	XVII.	21	<i>dama</i> , Perry	VII.	35
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<i>annulus</i> , Linnæus	XV.	71	<i>diluculum</i> , Reeve	XIV.	65
<i>aperta</i> , Gray	XX.	111	<i>dubia</i> , Gmelin	II.	6
<i>Arabica</i> , Linnæus	I.	2	<i>eburna</i> , Barnes	IX.	35
<i>Arabicula</i> , Lamarck	XIII.	60	<i>edentula</i> , Sowerby	XVII.	85
<i>arctica</i> , Montagu	XXIII.	129	<i>eglantina</i> , Duclos	I.	2
<i>arenosa</i> , Gray	VIII.	27	<i>erosa</i> , Linnæus	XI.	43
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<i>arlequina</i> , Chemnitz	I.	3	<i>erythræensis</i> , Beck	XIV.	63
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<i>atomaria</i> , Gmelin	XIX.	101	<i>exanthema</i> , Linnæus	V.	16
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<i>australis</i> , Lamarck	XXIV.	138	<i>fabula</i> , Kiener	XIX.	105
<i>Beckii</i> , Gaskoin	XXII.	125	<i>fasciata</i> , Chemnitz	V.	15
<i>bicallosa</i> , Gray	XVI.	79	<i>felina</i> , Gray	XIX.	105
<i>bifasciata</i> , Gmelin	II.	6	<i>ferruginosa</i> , Kiener	X.	40
<i>Broderipii</i> , Gray	V.	13	<i>fimbriata</i> , Gmelin	XVIII.	92
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<i>Childreni</i> , Gray	XXI.	115	<i>Goodalli</i> , Gray	XXII.	120
<i>cicercula</i> , Linnæus	XXI.	116	<i>Grayi</i> , Kiener	XII.	47
<i>cinerea</i> , Gmelin	XXII.	124	<i>guttata</i> , Gray	VIII.	30
<i>citrina</i> , Gray	XVI.	78	<i>guttata</i> , Lamarck	III.	7
<i>clandestina</i> , Linnæus	XIX.	106	<i>helvola</i> , Linnæus	XV.	72
<i>coccinella</i> , Lamarck	XXIII.	129	<i>hirundo</i> , Linnæus	XIX.	104

CYPRÆA.

	Plate.	Species.		Plate.	Species.
<i>histrion</i> , Gmelin	I.	3	<i>pallida</i> , Gray	XIII.	54
<i>hordacea</i> , Kiener	XXIV.	140	<i>pantherina</i> , Solander	III.	7
<i>Humphreysii</i> , Gray	XX.	110	<i>pediculus</i> , Linnæus	XXIII.	131
<i>Indica</i> , Gmelin	XI.	45	<i>pellucidula</i> , Gaskoin	XXVI.	153
<i>intermedia</i> , Kiener	XXIV.	140	<i>physis</i> , Brocchi	XII.	47
<i>interrupta</i> , Gray	XIX.	103	<i>picta</i> , Gray	XIII.	57
<i>interstincta</i> , Wood	XVI.	82	<i>pilula</i> , Kiener	XXVI.	152
<i>irina</i> , Kiener	XIII.	59	<i>piperata</i> , Solander	XVII.	87
<i>irrorata</i> , Solander	XXII.	126	<i>pisum</i> , Gaskoin	XXVI.	154
<i>isabella</i> , Linnæus	XII.	51	<i>plumbea</i> , Gmelin	II.	6
<i>labiosa</i> , Gaskoin	XXIII.	130	<i>poraria</i> , Linnæus	XVIII.	99
<i>Lamarckii</i> , Gray	X.	37	<i>princeps</i> , Gray	VI.	20
<i>lentiginosa</i> , Gray	XII.	49	<i>producta</i> , Gaskoin	XXIV.	137
<i>leucodon</i> , Broderip	VII.	23	<i>pulchella</i> , Swainson	XI.	42
<i>leucostoma</i> , Gaskoin	VII.	22	<i>pulchra</i> , Gray	IX.	34
<i>limacina</i> , Lamarck	XVI.	82	<i>pulex</i> , Solander	XXV.	144
<i>Listeri</i> , Gray	XVI.	83	<i>pulicaria</i> , Reeve	XVII.	84
<i>lurida</i> , Linnæus	IX.	32	<i>pulla</i> , Gaskoin	XXVI.	150
<i>lutea</i> , Gronovius	XX.	110	<i>punctata</i> , Linnæus	XIX.	101
<i>lynx</i> , Linnæus	IX.	33	<i>punctulata</i> , Gray	XIII.	61
<i>maculata</i> , Barnes	I.	3	<i>pustulata</i> , Lamarck	XV.	76
<i>Madagascariensis</i> , Gmelin	XV.	75	<i>pyriformis</i> , Gray	XII.	52
<i>mappa</i> , Linnæus	VI.	18	<i>pyrum</i> , Gmelin	VIII.	26
<i>margarita</i> , Solander	XXII.	123	<i>quadrifaculata</i> , Gray	XIX.	107
<i>Maugeriæ</i> , Gray	XXI.	119	<i>quadripunctata</i> , Gray	XXV.	146
<i>Mauritiana</i> , Linnæus	I.	1	<i>radians</i> , Lamarck	XXI.	117
<i>melanostoma</i> , Leathes	VI.	17	<i>rattus</i> , Lamarck	V.	15
<i>microdon</i> , Gray	XXIV.	139	<i>Reevei</i> , Gray	XI.	41
<i>miliaris</i> , Gmelin	X.	36	<i>reticulata</i> , Martyn	I.	3
<i>moneta</i> , Linnæus	XV.	74	<i>rosea</i> , Wood	XX.	109
<i>moniliaris</i> , Lamarck	XIX.	106	<i>rotunda</i> , Kiener	XXV.	146
<i>mus</i> , Linnæus	VII.	24	<i>rubescens</i> , Gray	XXV.	141
<i>napolina</i> , Duclou	XXVI.	149	<i>rubiginosa</i> , Gmelin	XIV.	67
<i>nebulosa</i> , Kiener	XIII.	58	<i>rubinicolor</i> , Gaskoin	XXV.	145
<i>neglecta</i> , Sowerby	XIX.	100	<i>rufa</i> , Lamarck	VIII.	26
<i>nigropunctata</i> , Gray	XIII.	59	<i>sanguinea</i> , Gray	XXIII.	127
<i>nivea</i> , Gray	XXIV.	136	<i>sanguinolenta</i> , Gmelin	XIX.	102
<i>nivosa</i> , Linnæus	VII.	25	<i>Saulæ</i> , Gaskoin	XIV.	62
<i>nucleus</i> , Linnæus	XV.	70	<i>scabriuscula</i> , Gray	XXIV.	140
<i>obvallata</i> , Lamarck	XV.	69	<i>Scottii</i> , Broderip	IV.	10
<i>ocellata</i> , Linnæus	XV.	73	<i>seurra</i> , Chemnitz	XI.	45
<i>oculata</i> , Gmelin	II.	6	<i>similis</i> , Gray	XVII.	89
<i>olivacea</i> , Gmelin	V.	15	<i>Solandri</i> , Gray	XXI.	113
<i>olivacea</i> , Lamarck	XIII.	56	<i>sordida</i> , Lamarck	XXII.	124
<i>oniscus</i> , Lamarck	XX.	111	<i>Sowerbyi</i> , Kiener	X.	40
<i>onyx</i> , Linnæus	X.	39	<i>spadicea</i> , Swainson	VII.	21
<i>oryza</i> , Lamarck	XXIV.	140	<i>spurca</i> , Linnæus	XIV.	68
<i>ovula</i> , Lamarck	XX.	112	<i>squalina</i> , Gmelin	IX.	33
<i>ovum</i> , Gmelin	XIII.	56	<i>staphylæa</i> , Linnæus	XVI.	82
<i>Pacifica</i> , Gray	XXV.	143	<i>stercoraria</i> , Linnæus	V.	15

CYPRÆA.

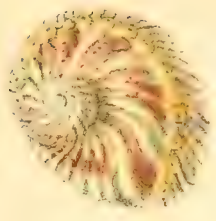
	Plate.	Species.		Plate.	Species.
<i>stercus-muscarum</i> , Lamarck	XIX.	101	<i>trifasciata</i> , Gmelin	I.	1
<i>stolidia</i> , Linnæus	XIV.	67	<i>turdus</i> , Lamarck	IX.	31
<i>subflavo</i> , Gmelin	XIII.	56	<i>umbilicata</i> , Sowerby	III.	7
<i>subrostrata</i> , Gray	XXVI.	147	<i>undata</i> , Lamarck	XIV.	65
<i>subviridis</i> , Reeve	XII.	48	<i>Valentia</i> , Perry	VI.	20
<i>suffusa</i> , Gray	XXV.	142	<i>vanelli</i> , Linnæus	IX.	33
<i>sulcata</i> , Dillwyn	XXIII.	131	<i>variolaria</i> , Lamarck	X.	38
<i>sulcidentata</i> , Gray	VIII.	29	<i>ventriculus</i> , Lamarck	VIII.	28
<i>tabescens</i> , Solander	XIV.	66	<i>vesicularis</i> , Gaskoin	XX.	108
<i>talpa</i> , Linnæus	II.	5	<i>vitellus</i> , Linnæus	V.	14
<i>teres</i> , Gmelin	XVIII.	93	<i>Walkeri</i> , Gray	XII.	50
<i>tessellata</i> , Swainson	XII.	53	<i>xanthodon</i> , Gray	XIII.	55
<i>testudinaria</i> , Linnæus	III.	9	<i>zebra</i> , Linnæus	V.	16
<i>tigrina</i> , Lamarck	III.	7	<i>ziczac</i> , Linnæus	XVIII.	97
<i>tigris</i> , Linnæus	IV.	12	<i>zonata</i> , Chemnitz	XIII.	58
<i>tremeza</i> , Duclos	XXVI.	148	<i>zonata</i> , Gray	X.	40

ERRATA.

- Plate I. p. 2,—for *C. aurora*, read *C. aurantium*.
Species 3, *C. RETICULATA*,—add as synonyme *C. maculata*, Barnes.
Species 20, *C. PRINCEPS*.—A report has just reached me from Lyons that a second specimen of this remarkable shell has been received from the Red Sea, and deposited in the Museum of that city; I cannot, however, vouch for the correctness of it at present.
Species 90, *C. ALGOENSIS*,—add authority, GRAY, Zool. Journal, vol. i. p. 498.
Species 91, *C. ANGUSTATA*,—add authority, GRAY, Zool. Journal, vol. i. p. 497.
Species 96, *C. gangrenosa*,—add authority, SOLANDER, MSS., Gray, Zool. Journal, vol. i. p. 503.

MONOGRAPH
OF THE GENUS
HALIOTIS.

“ In all the liveries deck'd of summer's pride,
With spots of gold and purple, azure and green ;
Or in their pearly shells at ease, attend
Moist nutriment, or under rocks their food.”—*Milton*.



2



HALIOTIS.

PLATE I.

Genus HALIOTIS, Linnæus.

Testa ovata, auriformis, planata, spirā parvā, brevissimā, laterali, peculiariter depressā; intus margaritacea, pulcherrimè prismatica, extus rugoso-costata aut corrugata, raro lævi, latere sinistro plus minusve angulato, foraminum serie regulari ad angulum perforato, nonnullis perviis; labro sinistro inflexo, planulato, dextro simplici; aperturā amplissimā, propatulā.

Shell ovate, ear-shaped, flat, spire small, very short, lateral, peculiarly depressed; pearly and very beautifully prismatic within, roughly ribbed or wrinkled without, rarely smooth, left side more or less angulated, perforated along the angle by a regular series of holes, some of which are open; left lip inflexed, flattened, right lip simple; aperture very large and wide open.

The genus *Haliotis* affords an unusual abundance of novelty from the circumstance of it never having been selected for the subject of an illustrated monograph; the species are, moreover, well defined, and may be easily determined by a careful examination of the variations of sculpture and arrangement of colours.

The *Haliotides* are interesting in form as being the most evolved and depressed of spiral shells, and they have been arranged with the *Chitons* and *Limpets* as exhibiting the nearest apparent affinity with the non-spiral Gastropods. They present also a singularity of structure in great measure analogous to the orifice in the shell of *Fissurella* or to the fissure in *Emarginula*. On the left side of the shell, in a direct curve parallel to the inflexed edge, is a row of equidistant perforations, made by the animal in its progress of growth for conveying the water to the breathing organs; the mantle is slit in that direction to a certain extent, and the water passes into the respiratory cavity through a tubular filament protruding from each hole. The number of pallial filaments being alike in the same individual throughout its several stages of growth, the shell mostly presents the same number of holes at all ages, filling up the hindmost orifice as a new one becomes formed at the margin. The *Siliquaria* presents a similar modification of structure, and it has been also considered that the slit in *Pleurotoma* is in some measure analogous.

The internal surface of the 'Ear Shells' is lined with a bright pearly nacre, which in most species is of remark-

able iridescent brilliancy, glowing with all the colours of the rainbow; the attention must, however, be directed to the outer coating of the shell, for the discrimination of species, and it is with this view that the figures in the foregoing monograph are devoted mainly to external sculpture. There is certainly a striking variation of character in the nacre of different species, but the pattern of the inner surface is merely an indentation of the outer. The number of perforations varies in different species, but may be said to correspond in different individuals of the same species; where an exception occurs, it is that there is sometimes one, or at most two, less in the adult than in the young state; that is, when the animal arrives at maturity it continues to stop up one or two of the perforations in advance of any new one.

It is a curious circumstance in the geographical distribution of the *Haliotides* that few, if any, are to be found where *Chitons* abound; as if they exchanged places to a certain extent in the two hemispheres. There are a few species from California, but along the western coast of South America, where *Chitons* are most abundant, not any are found, and only one small species, the *H. pulcherrima*, at any of the Islands of the Pacific. They inhabit the coasts of China, Japan, Ceylon, Mozambique, Cape of Good Hope, Borneo, and the Philippine Islands; but the greater number of species, and the most remarkable, are from New Zealand, and the continent of New Holland, displaying all the peculiarity of design which invariably characterizes the fauna of those isolated regions. With the well-known *Haliotis tuberculata* of the Channel islands, all are familiar. It is, however, a circumstance worth noting, that although such near neighbours, and comparatively abundant, especially at the island of Jersey, it is rarely collected on the coast of England.

The *Haliotides* are found at low water, attached to the under surface of masses of stone, and they fix themselves with great force to the rocks, by suction, on the least alarm.

Although the genus *Haliotis* was described by Lamarck as being "assez nombreux en espèces," only fifteen species appear to have been known to that illustrious naturalist; six were added to that number by M. Deshayes, in his new edition of the 'Animaux sans vertèbres,' and a few have been described by Mr. Gray and others in scattered memoirs.

April 1846.

With the rich and beautiful materials now before me, chiefly from the collection of Mr. Cuming, I shall probably be enabled to determine about eighty species; only a limited portion of them, however, were taken by that eminent traveller alive, as his researches have been chiefly confined to the Western Hemisphere.

Species 1. (Mus. Cuming.)

HALIOTIS PULCHERRIMA. *Hal. testā orbiculari-ovatā, convexiusculā, radiatim costatā, costis fortibus, latiusculis, nodoso-corrugatis, interstitiis rugosis; spirā subamplā; foraminibus senis perviis; lutescente-albā, castaneo-rubente maculatā et variegatā, intus aureo-albicante.*

THE VERY BEAUTIFUL HALIOTIS. Shell orbicularly ovate, rather convex, radiately ribbed, ribs strong, rather wide, nodosely wrinkled, interstices rough; spire rather large; six perforations open; yellowish white, spotted and variegated with chesnut red; nacre golden white.

MARTYN, Universal Conch. vol. ii. pl. 62.

Hab. Lord Hood's and Grimwood Islands, Pacific Ocean; Cuming.

There is no green or blue either in the outer coat or nacre of this species. The ribs are of a soft yellowish white, stained here and there with chesnut-red, and the pearly interior exhibits a faint golden hue.

Species 2. (Mus. Cuming.)

HALIOTIS GLABRA. *Hal. testā oblongo-ovatā, convexo-planulatā, spirā parvā; glabrā, striis perpaucis exsculptis radiantibus, latere sinistro tenuilirato, foraminibus senis perviis, parviusculis; labro sinistro latiusculo; olivaceo-viridi, luteo-viridescente angulato-reticulatā et variegatā.*

THE SMOOTH HALIOTIS. Shell oblong-ovate, convexly flattened, spire small; smooth, with a few radiating engraved striæ, left side finely ridged, six perforations open, rather small, left lip rather broad; dark olive green, angularly reticulated and variegated with pale yellowish green.

CHEMNITZ, Conch. Cab. vol. x. p. 311. pl. 166. f. 1602, 3.

Hab. Australia; Dring, R.N.

M. Deshayes is perfectly correct in his views of this species, so admirably portrayed by Chemnitz. Figures 1607 and 8 of the 'Conchylien Cabinet' represent a species,

hereafter to be described, unquestionably distinct both in form and colour from that under consideration; and the shell represented by Schubert and Wagner in the Supplement of that work, Fig. 3086, 7, as a variety of *H. glabra*, is also a very distinct species, subsequently described by Mr. Swainson under the name of *Haliotis Californiensis*.

Species 3. (Mus. Cuming.)

HALIOTIS CUNNINGHAMII. *Hal. testā ovatā, tenui, maximā, concavo-depressā, latere sinistro angulato, ad angulum perforato, foraminibus subtubulosis, senis, (in testā juveni septenis vel octonis) perviis; obliquè undato-plicatā, striis elevatis minutè corrugatis undique sculptā, margine sinistro latiusculo, planato; extus rubro-ferrugineā, viridi fuscoque variegatā, intus albicante.*

CUNNINGHAM'S HALIOTIS. Shell ovate, thin, very large, concavely depressed, left side angulated, perforated at the angle, perforations somewhat tubulous, six (in the young shell seven or eight) open, obliquely undulately plicated, sculptured throughout with minutely wrinkled striæ, left margin rather broad, flattened; outside reddish brown, variegated with green and darker brown, inside whitish.

GRAY, Appendix to King's Voyage (Narrative of a Survey of the Coast of Australia, 1827), vol. ii. p. 494.

Hab. Australia and New Zealand.

Three excellent figures of this magnificent species have been recently published by Dr. Phillippi in his valuable work on Species of Shells 'Abbild. und Besch. Conch.' for the *Haliotis nersosa* of Martyn, Univ. Conch. vol. ii. pl. 63, from which it differs materially both in form and colour. It was described by Mr. Gray nearly twenty years ago in the work above quoted, and I have had the pleasure of identifying the splendid shell here figured, with a young specimen in that gentleman's private cabinet, having the name of Mr. Allan Cunningham, the indefatigable Botanist of that Expedition, attached to it in Mr. Gray's handwriting. It is a very large thinnish concavely flattened shell, with the left side rather sharply angulated, and the outer surface finely sculptured throughout with wrinkled striæ, a good distinctive character to which I attach some importance, and which is conspicuously developed in specimens of different stages of growth now before me. The colour is a light rusty red, variegated with flame-like patches of dark brown, with a little green intermingled, the nacre of the interior being of a rather pallid hue.



HALIOTIS.

PLATE II.

Species 4. (Mus. Cuming.)

HALIOTIS VARIA. *Hal. testā ovato-oblongā, depresso-converā, spirā humili; obliquè tumido-nodosā, spiraliter crebilitatā, liris valdè irregularibus, foraminibus senis perviis; viridi aut olivaceo-fusco luteoque diversimodo radiatim variegatā, intus argenteā.*

THE VARIEGATED HALIOTIS. Shell ovately oblong, depressly convex, spire low, obliquely tumidly nodose, spirally closely ridged, ridges very irregular, six holes open; diversely radiately variegated with greenish or olive-brown and yellow; nacre silvery.

LINNEÆUS, Syst. Nat. (12th edit.) p. 1256.

Hab. Philippine Islands; Cuming.

A good distinguishing mark in this species are the curious swollen nodules, ranging across the shell in oblique waves, though sometimes a little obscure. The variegated yellow and olive-green colour is mostly disposed in alternate enlarging stripes striking out from the nucleus of the spire. Mr. Cuming found the *H. varia* abundantly distributed throughout the Philippine Islands.

Species 5. (Mus. Cuming.)

HALIOTIS RUBICUNDA. *Hal. testā suborbiculari-ovatā, tenuiculā, medio concavo-depressā, latere sinistro tricotato, costā externā tuberculatā, scabrosā, medianā tubiferā, perforatā, foraminibus quinis senisve perviis, internā tumidā, conspicuā, rugoso-striatā, lamellis tenuibus undato-striatis erectis inter spiram et costam internam concentricè dispositis; extus rufescente aut olivaceo viridique variegatā, intus pulcherrimè iridescente.*

THE RED-TINGED HALIOTIS. Shell somewhat orbicularly ovate, rather thin, concavely depressed in the middle, left side three-ribbed, the outer rib tuberculated and scabrous, the middle rib tubiferous and perforated, six to seven of the perforations open, the inner rib swollen, conspicuous, roughly striated, with

thin lamellæ concentrically arranged between the spire and the inner rib; exterior reddish or variegated olive and green, interior very beautifully iridescent.

LAMARCK, Anim. sans. vert. (Deshayes' edit) vol. ix. p. 30.

GRAY, App. King's Voyage, p. 494.

Padollus rubicundus, De Montford.

Padollus scalaris, Leach.

Haliotis tricotata, Lamarck.

Haliotis canaliculata, Schubert and Wagner.

Hab. Rotten Nest Island, Swan River Settlement; Lieut. Preston, R.N.

The structure and symmetrical arrangement of this species is truly elegant; and highly characteristic of the beautiful natural productions of the country of which it is an inhabitant.

Species 6. (Mus. Cuming.)

HALIOTIS RUFESCENS. *Hal. testā ovatā, convexo-depressā, crassiusculā, spiraliter liratā, liris minutis irregularibus; obliquè undato-plicatā, plicis grandibus tumidis; foraminibus subamplis, tubulosis, quaternis tantum perviis; extus corallo-rubrā saturatā, intus iridescente, labri dextri limbo intus corallo-rubro.*

THE CORAL-RED HALIOTIS. Shell ovate convexly depressed, rather thick, spirally ridged, ridges minute, irregular; obliquely wave-plicated, plaits large, swollen; perforations rather large, tubulous, four only open; outside deep coral-red, inside iridescent, inner edge of the right lip coral red.

SWAINSON, Appendix to Bligh Catalogue, p. 2.

Hab. Ceylon; Dr. Sibbald.

A fine dark coral-red species growing in large oblique swollen undulating waves. "In proportion as the back of this species is worn down," says Mr. Swainson "the colour becomes of a bright red," an observation very significant of its real character.



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9

HALIOTIS.

PLATE III.

Species 7. (Mus Taylor.)

HALIOTIS RUGOSO-PLICATA. *Hal. testā oblongo-ovatā, anticè subattenuatā, valdè convexā, spiraliter elevato-striatā, obliquè rugoso-plicatā, foraminibus septenis per- viis; olivaceo-viridescente, rufo pallidè radiatā.*

THE ROUGH-PLAITED HALIOTIS. Shell oblong-ovate, a little attenuated anteriorly, very convex, spirally ele- vately ridged, obliquely roughly plicated, seven of the perforations open; pale olive green, faintly radiated with red.

CHEMNITZ, Conch. Cab. vol. x. p. 311. pl. 116. f. 1604. and 1604. a.

Haliotis australis, Gmelin, Lamarck.

Hab. New Holland; Capt. King.

Although a compound specific name is not quite in ac- cordance with the modern rules of nomenclature, I cannot think that any hitherto given should be abandoned.

Species 8. (Mus. Cuming.)

HALIOTIS KAMTSCHATKANA. *Hal. testā ovato-oblongā, spiraliter striatā et liratā, liris plano-obtusis subdistan- tibus, transversim obliquè tumulosis, tumoribus conspi- cuis, subundatis, latere sinistro latisulcato, foraminibus tumidiusculis amplis, quaternis tantum per viis, extus rufo-viridique vividè tessellatim variegatā, liris spirali- bus rufo-alboque promiscuè articulatis.*

THE KAMTSCHATKA HALIOTIS. Shell ovately oblong, spi- rally striated and ridged, ridges flatly obtuse, rather dis- tant, transversely obliquely full of conspicuous waved swellings, left side rather broadly grooved, perforations rather swollen, large, four only open; exterior tessel- lately variegated with bright red and green, spiral ridges articulated with red and white.

JONAS, Menke, Zeitschrift für Malak. Nov. 1845.

Hab. Oonalaska, near Kamtschatka, Northern Archi- pelago; Jonas.

This very beautifully painted shell has more the appear- ance of a tropical than a northern species, for it presents the brightest display of colours of any of the genus. The entire surface consists of wavy swellings, variegated in a somewhat tessellated style with dark coral red and bright verdigris green, over which the spiral ridges pass here and there articulated with red and white.

Species 9. (Mus. Cuming.)

HALIOTIS SPLENDENS. *Hal. testā ovatā, convexo-depressā, undique spiraliter liratā, liris crebris regularibus subob- tusis, nonnullis aliis latioribus, foraminibus quinis per- viis; extus ærugini-viridescente, articulis albicantibus spiram prope interdum notatā, epidermide fibroso fusco indutā, intus cæruleo viridique, nigricante nebulatā, pulcherrimè iridescente.*

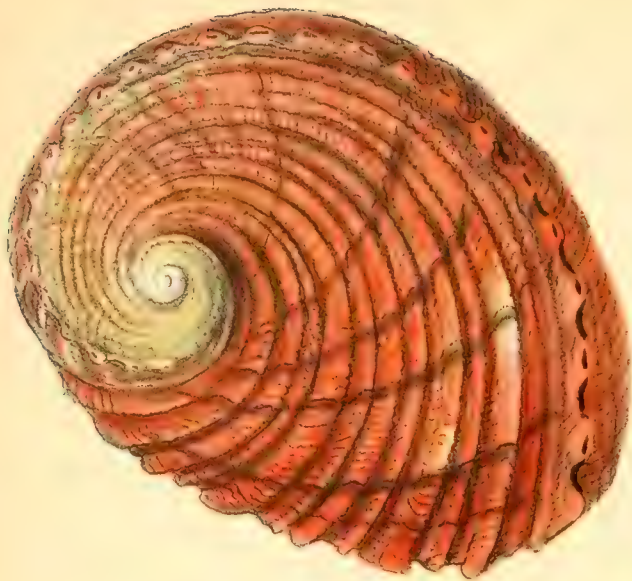
THE SPLENDID HALIOTIS. Shell ovate, convexly depres- sed, spirally ridged throughout, ridges close-set, regular, rather obtuse, some broader than others, five of the perforations open; outer surface of the shell verdigris green, sometimes marked near the spire with whitish articulated markings, covered with a brown epidermis, inner surface very beautifully iridescent with blue and green clouded with black.

REEVE. Pro. Zool. Soc. 1846.

Hab. California.

This is the large species imported from California, the richly coloured polished surface of which is used for the ornamental work of various articles of manufacture. It is not referable to any of the species mentioned by Lamarck, and although familiarly known to collectors by the above name I cannot learn upon what authority it has been used.

April, 1846.



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HALIOTIS.

PLATE IV.

Species 10. (Mus. Cuming.)

HALIOTIS ROEI. *Hal. testā suborbiculari-ovatā, depresso-planā, spiraliter costatā et liratā, costis lirisque alternantibus, peculiariter crebriscabrosis, foraminibus parvisculis, octonis novenisque perviis; extus vividē coccineo-rubrā aut olivaceo-fuscā, radiatim albimarmoratā, intus spiraliter sulcatā, pulchrē iridescente.*

ROE'S HALIOTIS. Shell somewhat orbicularly ovate, depressly flattened, spirally ribbed and ridged, ribs and ridges alternating, peculiarly closely scabrous, perforations rather small, eight or nine open; exterior bright scarlet red, radiately marbled with white, interior spirally grooved, beautifully iridescent.

GRAY, Appendix to King's Voyage (Narrative of a Survey of the coast of Australia, 1827), vol. ii. p. 493.

Haliotis scabricosta, Menke.

Hab. New Holland; King, Menke.

This very interesting species was originally collected during Capt. King's Survey of the coast of Australia, and named by Mr. Gray in honour of Lieut. Roe of that Expedition in his Appendix to the 'Narrative of the Voyage' above referred to. M. Menke not being cognizant of this book described the species in his *Moll. Novæ Hollandiæ* under the name of *H. scabricosta*, and Dr. Philippi has reproduced it under the same name in his 'Abbild. und Besch. Conch'.

The external sculpture of the *Haliotis Roei* consists of a number of alternating ribs and fine ridges, composed of irregular scales closing immediately one upon the other.

Species 11. (Mus. Cuming.)

HALIOTIS MARIE. *Hal. testā ovatā, depressiusculā, spirā sublaterali; spiraliter costatā, costis depressis, perlatis, oblique vix plicatis, supra uni-bi-sulcatis, interstitiis excavatis, foraminibus subamplis, quinque perviis; extus aurantio-spadiceo variegatā, intus subargenteā.*

MARIA'S HALIOTIS. Shell ovate, rather depressed, spire nearly lateral; spirally ribbed, ribs depressed, very broad, slightly obliquely plicated, upper surface engraved with one or two grooves, interstices between the ribs hollow, holes rather large, five open; exterior tinged with orange fawn, interior rather silvery.

GRAY, Wood Index Test. Supp. 1825. pl. 8. f. 6.

Haliotis dentata, Jonas.

Hab. — ?

This interesting species was named some twenty years since by Mr. Gray in honour of his kind-hearted and accomplished lady, so well-known to conchologists by her spirited etchings of the Mollusca. It is so unlike any other species of the genus that no one can fail to admire it. The surface between the row of perforations and the spire, is characterized by about half a dozen peculiarly broad depressed ribs, the interstices between which are excavated into as many hollow channels; and down the flattened summit of each rib are one or two faintly indented grooves.

I have not as yet heard of more than three specimens, that in the possession of Mr. Cuming here figured; one in Mr. Gray's collection; and one in the collection of Dr. Jonas of Hamburg, to whom my thanks are due for the trouble he has taken in forwarding me drawings of it. Although I am unable to adopt that gentleman's name for this species, I feel equally indebted to him for his kind services; and I can only say that if all my continental friends would be equally prompt in putting me in possession of their new unfigured species of shells by the same means, it would avoid a great deal of confusion, and enable me to do justice alike to all authors.

Species 12. (Mus. Cuming.)

HALIOTIS CORRUGATA. *Hal. testā ovatā, convexā, spiraliter crebriliratā, liris undique tumido-corrugatis, plicis undatis interdum obliquē decussatis, foraminibus perpaucis, amplis, tubiferis, tribus tantum perviis; extus rubido-castaneo viridique, nigro marginato, pulcherrimē iridescente.*

THE WRINKLED HALIOTIS. Shell ovate, convex, spirally closely ridged, ridges prominently raised throughout in swollen wrinkles, sometimes obliquely crossed with waved folds, perforations few in number, large, tubiferous, three only open; exterior rayed with dark green and reddish chesnut, edged with black, very beautifully iridescent.

GRAY, Wood, Index Test. Supp. pl. 8. f. 5.

Hab. California.

This fine large species, which is not uncommon in collections, may be recognized by the conspicuous nodulous wrinkles with which its entire surface is covered; it is a thick heavy shell, rather more convex than usual.



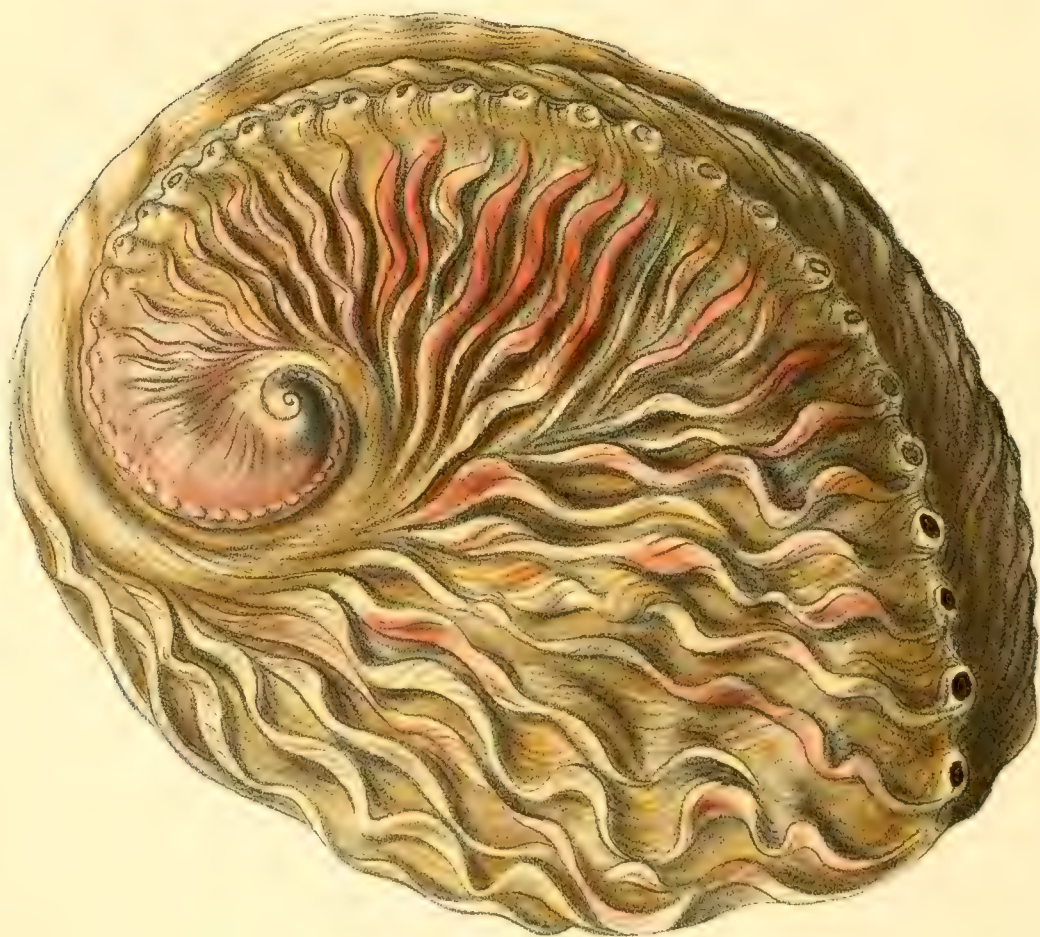
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14



15



16

HALIOTIS.

PLATE V.

Species 13. (Mus. Cuming.)

HALIOTIS JAPONICA. *Hal. testā ovato-oblongā, subplanulato-convexā, liris tenuibus æqualibus spiraliter funiculatā, concentricè rugoso-plicatā, plicis conspicuis lamellæformibus irregularibus, foraminibus quinis senisve perviis; luteo, olivaceo-fusco, viridique undique pulcherrimè variegatā.*

THE JAPAN HALIOTIS. Shell ovately oblong, rather flatly convex, spirally corded with fine equal ridges, concentrically rugosely plicated, plaits conspicuous, lamella-like, irregular; five to six holes open, beautifully variegated with yellow, olive-brown and green.

REEVE, Pro. Zool. Soc., 1846.

Hab. Japan; Dr. Siebold.

This beautiful species from Japan might easily be mistaken for the following, from the coast of Gibraltar, the shell being developed in stout concentric ridges in a nearly similar manner; the detail of sculpture will, however, be found on examination, to differ materially. In the *H. Japonica* the surface is engraved throughout with fine cords, equidistant from each other, and extremely regular in their arrangement; in the *H. lamellosa* the ridges are very irregular, though mostly alternately broad and narrow; and the interstices are not so distinctly grooved. Coming from such a different locality these variations may be regarded of ample specific importance.

Species 14. (Fig. 14 and 15, Mus. Cuming.)

HALIOTIS LAMELLOSA. *Hal. testā oblongo-ovatā, subplanulato-convexā, spiraliter tenuiliratā, liris obtusis, irregularibus, foraminibus quinis senisve perviis; luteo, olivaceo-fusco, viridique, vel aurantio-rubente, undique pulcherrimè variegatā.*

THE LAMELLATED HALIOTIS. Shell oblong-ovate, rather flatly convex, spirally finely ridged, ridges obtuse, irregular, with the alternate mostly the larger, concentrically obliquely plaited, plaits conspicuous lamellæ-like, irregular, five to six holes open; beautifully variegated with yellow, olive brown and green, or with orange red.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 29.
Hab. Gibraltar.

Having already described the specific peculiarities of this shell in treating of the preceding species, it only remains to notice that the oblique lamella-like folds are very irregularly developed, the most constant character being displayed in the style of the spiral grooving.

For Species 15, see PLATE IX.

Species 16. (Mus. Cuming.)

HALIOTIS MIDÆ. *Hal. testā rotundato-ovatā, depressoplanā, circa apicem minutissimè et creberrimè spiraliter sulcatā, obliquè obsoletè undatā, concentricè plicatā, plicis peculiariter undulatis, et retrorsum crispatis, valdè irregularibus; marginibus posticā sinistrāque latis, plano-reflexis; foraminibus parvis numerosis confertis, ad novenis perviis; extus luteo-albicante, apice plicisque sæpissimè corallo-rubris, epidermide luteo-fuscā indutis, intus cæruleo-viridi sanguineoque iridescente.*

MIDAS'S HALIOTIS. Shell rotundately ovate, depressly flattened, very minutely and closely spirally grooved around the apex, obliquely obsoletely waved, concentrically plaited, plaits peculiarly waved and curled backwards, very irregular, posterior and left margins broad and flatly reflexed, holes small, very numerous, close-set, about nine open; outside yellowish white, apex and folds more or less tinged with coral red, covered with a light yellowish-brown epidermis, inside iridescent with blueish green and faint blood tinge.

LINNÆUS, Syst. Nat. (10th edit.), p. 779.

Testa juvenis.

Haliotis Capensis, Dunker.

Hab. Cape of Good Hope.

In order to appreciate the characters of this beautiful species, it should be examined in different stages of growth; in a very young state there is no indication of the wavy curled plaits with which the shell is so remarkably characterized in a maturer condition. The entire surface of the primitive whorls is very minutely spirally grooved or elevately striated; the plaits begin to develop themselves at the commencement of the last whorl, originating from a point in its centre, and gradually spreading in light lamella-like wrinkles like a concentric flow of ripples on the bosom of a calm lake. In this state it is of an oblong form, rather acuminate anteriorly, and constitutes the *H. Capensis* of Dunker, Philippi, Abbild. und Besch. Conch. *Hal.* Pl. 1. Fig. 4. As the shell advances in growth the plaits become more thickened and irregular, and wind round the spire in such a manner as to form a flattened reflexed rim. The spire, generally more or less worn, has a peculiar coppery red iridescence, and the plaits, though covered naturally with a pale yellowish brown epidermis, are coral-red beneath, and mostly exhibit their colour from the effects of friction.



17



18



19

HALIOTIS.

PLATE VI.

Species 17. (Mus. Cuming.)

HALIOTIS SANGUINEA. *Hal. testâ oblongo-ovatâ, anticè flexuoso-contractâ et attenuatâ, parte spirali subelevatâ, concentricè obliquè corrugatâ et striatâ; foraminibus creberrimis, ad novenis perviis; fuscâ (in ætate juveni albivarietatâ), spirâ intus sanguineo peculiariter tinctâ.*

THE BLOOD-STAINED HALIOTIS. Shell oblong-ovate, anteriorly flexuously contracted and attenuated, spiral portion of the shell rather elevated, concentrically obliquely wrinkled and striated, holes very close together, about nine open; brown (variegated with white in a young state), spire peculiarly tinged within with blood red.

HANLEY, Young Conchologist's Book of Species (1841), p. 60. Frontispiece, f. 5.

Haliotis ficiformis, Menke.

Hab. Cape of Good Hope.

This species may be easily recognised by its obliquely wrinkled and dark chocolate brown exterior, and by an iridescent blood stain within the winding cavity of the spire; the holes are very numerous and unusually close together, and the anterior portion of the shell is peculiarly flexuous and attenuated. It was originally described and figured by Mr. Hanley, in a little work called 'The Young Conchologist's Book of Species'.

Species 18. (Mus. Cuming.)

HALIOTIS ASININA. *Hal. testâ elongato-ovatâ, subcurvatâ, posticè flexuoso-acuminatâ, spirâ terminali, obliquè irregulariter striatâ, parte posticâ liris subtilibus subdistantibus e apice radiantibus, deinde evanidis; foraminibus parvisculis, numerosis, ad octonis perviis; olivaceo-viridi, maculis fuscis perpaucis subtrigonis, flammis lutescentibus, lineisque fuscis numerosis brevibus interruptis pulcherrimè variegatâ, radiis viridibus et rufo-flavis undatis prope apicem alternatim pictâ.*

THE ASS'S HALIOTIS. Shell elongately ovate, slightly curved, posteriorly flexuously acuminate, spire terminal, obliquely irregularly striated, posterior portion of the shell with fine rather distant ridges radiating from the apex, then fading away; holes rather small, numerous, about eight open; olive green, beautifully

variegated with a few triangular brown spots, yellowish flames and numerous short interrupted brown lines, and painted with alternate green and reddish yellow zigzag rays next the apex.

LINNÆUS, Syst. Nat. (10th edit.), p. 780.

Hab. China; Belcher, Dr. Sibbald. Philippine Islands; Cuming.

This very prettily variegated species, the most elongated of the genus, is remarkable for the extra-terminal convolution of the spire.

Species 19. (Mus. Cuming.)

HALIOTIS GIGANTEA. *Hal. testâ ovatâ, spiraliter costatâ, costis parvis crebris irregularibus obtusis, interdum subobsoletis, obliquè nodoso-undatis; foraminibus amplis, peculiariter tubulosis, tribus quaternis perviis; extus spadiceo-rubente, intus albicante pallidè viridique iridescente.*

THE GIGANTIC HALIOTIS. Shell ovate, spirally ribbed, ribs small close irregular obtuse, sometimes somewhat obsolete, obliquely nodosely waved; holes large, peculiarly tubular, three to four open; exterior fawn red, interior iridescent with white and pale green.

CHEMNITZ, Conch. Cab., vol. x. pl. 167. f. 1610, 1611.

Haliotis tubifera, Lamarck.

Hab. Japan; Dr. Siebold.

The word *gigantea* is a much less appropriate term for this species than *tubifera*, for there are four or five others of larger size, but none in which the orifices are so peculiarly tubular; the rule of priority nevertheless requires that it should be adopted in preference. It was wrong of Chemnitz to introduce this shell under the name of *gigantea*, when he considered it to be identical with the *H. nævosa* of Martyn; it happens, however, that these are two distinct species, and both names, therefore, must be maintained. The *H. gigantea* is a peculiar light fawn-coloured red shell from Japan, well distinguished by the tubular structure of the holes; the *H. nævosa* (for which see Plates VIII. and IX., Fig. 27), is of a deep coral red, sometimes green, variegated, from Van Dieman's Land, and of smaller size.



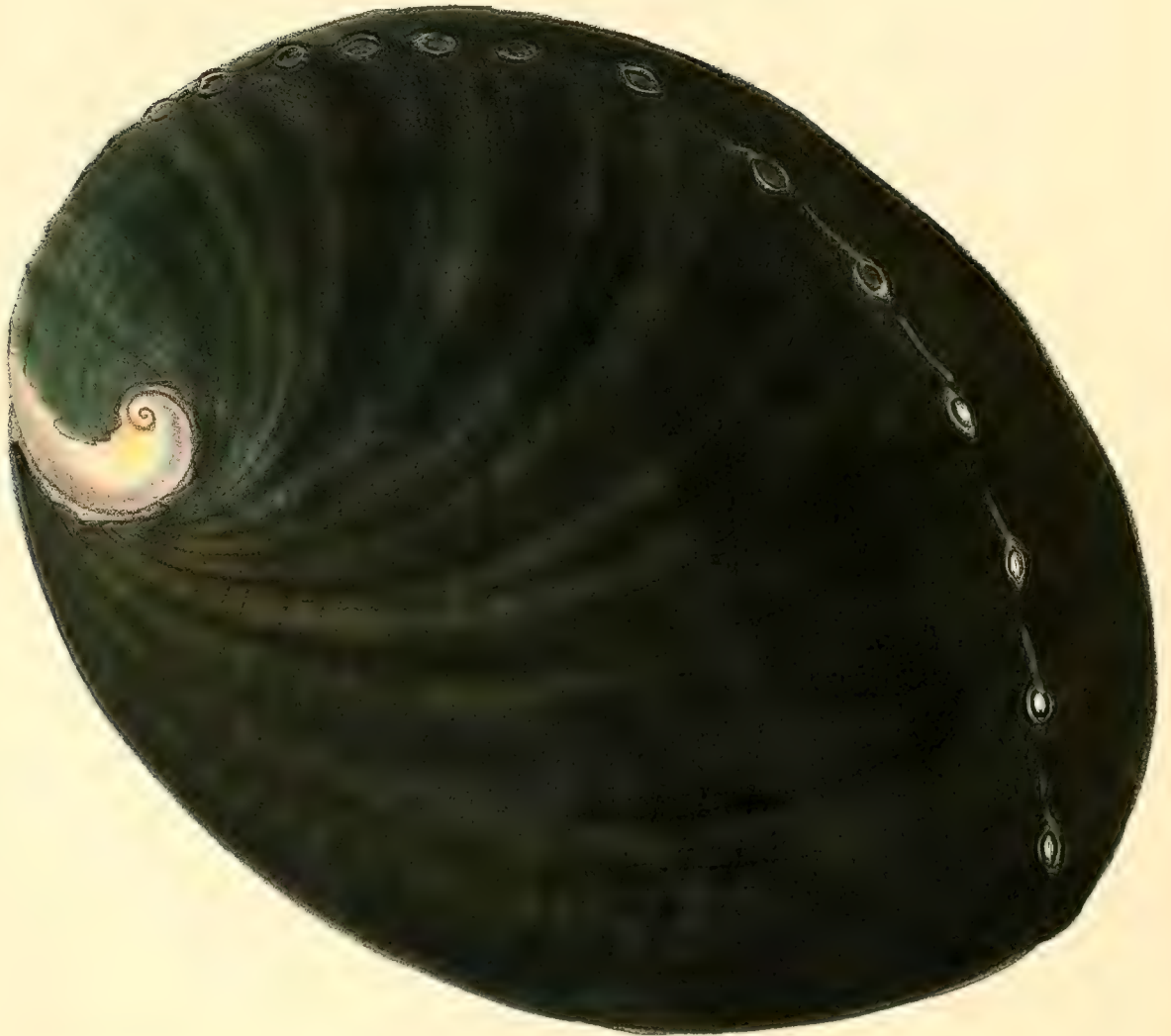
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HALIOTIS.

PLATE VII.

Species 20. (Mus. Cuming.)

HALIOTIS SQUAMOSA. *Hal. testā oblongo-ovatā, transversim obliquè rugosā, spiraliter tuberculato-costatā, tuberculis squamiformibus, costis nunc confertis, nunc lirā parcā intercurrente; foraminibus subamplis, septenis perviis; extus aurantio-fusco luteoque maculatā et variegatā, intus albicante, iridescente.*

THE SCALY HALIOTIS. Shell oblong-ovate, transversely obliquely wrinkled, spirally tubercularly ribbed, tubercles scale-like, ribs sometimes close, sometimes with a fine ridge running between them; perforations rather large, seven open; exterior spotted and variegated with yellow and orange-brown, interior whitish, iridescent.

GRAY, Appendix to King's Voyage (Narrative of a Survey of the Coast of Australia, 1827), vol. ii. p. 495.

Haliotis Rodingii, Philippi.

Hab. Australia; King.

An extremely interesting species, well characterized by its close ribs of scale-like tubercles, ranging across the shell in oblique waves; in the middle portion of the shell there is a fine ridge running between the ribs; the colour is also peculiar, a kind of burnt-umber-stained orange.

Dr. Jonas of Hamburg informs me that there is another specimen in the collection of Dr. Roding of that city.

Species 21. (Mus. Cuming.)

HALIOTIS ELEGANS. *Hal. testā elongato-ovatā, subflexuosā, convexā, apice terminali; spiraliter costatā, costis tenuibus, angustis, elevatis, lamelliformibus, per summitatem subobsoletè crebrisquamatis, costarum interstitiis subprofundè sulcatis, striatis; foraminibus parvis, remotis, ad octonis perviis; aurantio-lacteā, aurantio-rufescente strigatā et variegatā; intus albicante, margaritaceā.*

THE ELEGANT HALIOTIS. Shell elongately ovate, rather flexuous, convex, apex terminal; spirally ribbed, ribs thin, narrow, elevated, lamella-like, somewhat obsoletely closely scaled along the summit, interstices between the ribs rather deeply grooved and striated, holes small, distant, about eight open; orange cream colour, streaked and variegated with orange red, interior whitish, pearly.

KOCH, Philippi, Abbild. und Besch. Conch. *Haliotis*, Pl. 1. Fig. 1 and 2.

Hab. Port Adelaide, New Holland.

This is a truly elegant species and very distinct from any hitherto known; its form is that of a gracefully curved elongated oval, covered with erect close-set lamella-like ribs, spirally radiating from the apex, the summits of which are swollen and bent over with scales fitting closely one upon the other. Its general tinge is that of an orange cream colour.

Species 22. (Mus. Cuming.)

HALIOTIS COCCINEA. *Hal. testā oblongo-ovatā, spiraliter liratā, liris creberrimis inæqualibus, interstitiis transversim minutissimè striatis; foraminibus confertiusculis, quinis senisve perviis; extus coccineo-rufā, lutescente-albo maculatā et variegatā, intus argenteo-albicante.*

THE SCARLET-CLAD HALIOTIS. Shell oblong-ovate, spirally ridged, ridges very close, unequal, interstices transversely finely striated; holes rather close, five or six open; exterior scarlet-red, spotted and variegated with yellowish white, interior silvery white.

REEVE. Pro. Zool. Soc. 1846.

Hab. Cape de Verd Islands.

The ridges have a tendency to range alternately singly and in pairs, but are very irregular.

Species 23. (Mus. Cuming.)

HALIOTIS CRACHERODII. *Hal. testā ovatā, convexā, spirā suboccultā; lævigatā aut radiatim striatā, foraminibus parvis, senis ad octonis perviis, extus cæruleo-nigricante, intus albicante, margaritaceā.*

CRACHERODE'S HALIOTIS. Shell ovate, convex, spire somewhat concealed; smooth or radiately striated, holes small, about six to eight open; exterior blueish black, interior whitish, pearly.

LEACH, Zoological Miscellany, 1814, vol. i. p. 131.

Haliotis glaber, Schubert and Wagner.

Hab. California.

It may perhaps be as well to mention that the fine specimen of *H. Cracherodii* here figured from Mr. Cuming's collection, is of unusually large size; it is of a peculiar bottle-blue black colour externally, and has never more than eight of the perforations open.



24



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HALIOTIS.

PLATE VIII.

Species 24. (Mus. Cuming.)

HALIOTIS ZICZAC. *Hal. testā ovatā, planulato-convexā, spiraliter subtilissimè sulcatā, foraminibus parvisculis, senis pervis; olivaceo-viridi, luteo-viridescente obliquè flammeo-undatā, apice luteo-aurantio tincto, intus argenteā, iridescente.*

THE ZIGZAG HALIOTIS. Shell ovate, rather flatly convex, spirally very finely grooved, perforations rather small, six open; dark olive green, obliquely marked with light yellowish green zigzag flames, apex tinged with orange yellow, interior silvery, iridescent.

REEVE, Pro. Zool. Soc., 1846.

Hab. Calipan, Island of Mindoro, Philippines (found on smooth stones); Cuming.

The colour, form, and general aspect of this shell very much resembles those of the *H. glabra*; it differs chiefly in having the entire surface finely radiately grooved. The zigzag design of the colouring is very characteristic.

Species 25. (Mus. Cuming.)

HALIOTIS EXCAVATA. *Hal. testā subrotundā, convexissimā, spirā elevatā; spiraliter subtiliter liratā, liris striis radiantibus decussatis, rugis brevibus obliquis circa spiram concentricè dispositis; viridi-albicante, olivaceo-fusco radiatim strigatā et variegatā, intus profundè excavatā, albicante, pulchrè iridescente.*

THE EXCAVATED HALIOTIS. Shell nearly round, very convex, spire elevated; spirally finely ridged, ridges crossed with radiating striæ, with short oblique wrinkles concentrically ranged round the spire; greenish white, radiately streaked and variegated with olive brown, interior deeply excavated, whitish, beautifully iridescent.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. ix. p. 25.

Hab. Kangaroo Island, Australia.

An interesting and well-known species, fully distinguished from any other hitherto recorded by its rounded convex growth.

Species 26. (Mus. Cuming.)

HALIOTIS CALIFORNIENSIS. *Hal. testā ovatā, spirā suboccultā, lævigatā aut decussatim striatā, margine sinistro latiusculo, concavo-plano; foraminibus minutis, numerosissimis, duodecenis pervis, extus cæruleo-nigricante, intus albidā, margaritaceā.*

THE CALIFORNIAN HALIOTIS. Shell ovate, spire rather concealed, smooth or decussately striated, left margin rather broad, concavely flattened; holes very small and numerous, twelve open; exterior blueish black, interior whitish, pearly.

SWAINSON, Zool. Illustrations, vol. ii. pl. 80.

Hab. California.

This species has been separated with excellent discrimination by Mr. Swainson from the *H. Cracherodii*, from which it exhibits little intelligible difference beyond the unusual number and smallness of the holes; in the specimen here figured there are as many as twelve open; Mr. Swainson does not enumerate the perforations of the specimen he described, but in comparing it with the *H. Cracherodii* he sufficiently explains that they are "half as large and doubly numerous."

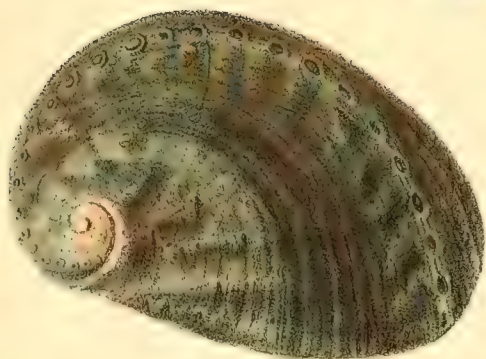
The distinction above noted between the *H. Cracherodii* and *Californiensis*, appears to have escaped the critical attention of M. Deshayes; the shell described by him, first, as the *H. glabra*, after Schubert and Wagner, and secondly, as the *H. Californiensis*, is the *H. Cracherodii*, which, though commonly of similar dimensions, is often much larger. The marked difference in the arrangement and number of the perforations in these two Californian species is certainly important; it is not a character of the genus to present so great a variation in different individuals of the same species.

Species 27. (Mus. Cuming.)

HALIOTIS NÆVOSA.—For description and further illustration of this extremely variable species see PLATE IX.



250



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270

HALIOTIS.

PLATE IX.

Species 27. (Fig. a, Plate viii, and Fig. c, Mus. Cuming;
Fig. b, Mus. Metcalfe.)

HALIOTIS NEVOSA. *Hal. testā ovatā, spiraliter liratā, liris granoso-squamosis, sæpè alternatim majoribus, obliquè undato-rugosā, rugis plus minusve tumidis, foraminibus senis perviis; aut vividè rubrā aut coccineo-rubrā, lutescente radiatā, aut olivaceo-rufescente viridi radiatā.*

THE KNOTTED HALIOTIS. Shell ovate, spirally ridged, ridges granosely scaled, often alternately the larger, obliquely undately wrinkled, wrinkles more or less swollen, six holes open; deep red or scarlet red, radiated with yellowish white, or light olive red radiated with green.

MARTYN, Universal Conch. v. ii. f. 63.

Haliotis ruber, Leach.

Hab. New Holland, New Zealand, and Van Dieman's Land.

This is the most variable species I have met with, and appears to have been greatly misunderstood by authors; Lamarck confounded it with the *H. gigantea*, his *H. tubifera*; Philippi with the *H. Cunninghamii*, whilst Dr. Leach described it in his 'Zoological Miscellany' Pl. 23, as a new species, under the name of *H. ruber*. The variations chiefly consist in the spiral ridges being more or less prominently developed, and in the obliquely waved wrinkles being more or less swollen; in colour the species varies from an uniform deep coral red to a reddish olive, radiated with pale green, as represented in Fig. 27 of the preceding and accompanying plates.

Species 15. (Mus. Cuming.)

HALIOTIS MULTIPERFORATA. *Hal. testā oblongo-ovatā, subflexuosā, anfractuum parte spirali subelevatā; spi-*

raliter lineari-sulcatā, sulcis subundatis irregularibus; foraminibus parviusculis numerosis, decenis perviis, extus nigricante-fusco viridique variegatā, intus albicante.

THE MANY-PERFORATED HALIOTIS. Shell oblong-ovate, rather flexuous, spiral portion of the whorls somewhat elevated; spirally linearly grooved, grooves a little waved, irregular; holes rather small, numerous, ten open; exterior dark-brown, variegated with green, interior whitish.

Hab. — ?

This darkly variegated species, the surface of which is smooth, engraved with fine waved spiral lines, has somewhat the form of the *H. sanguinea*; the spiral portion of the shell being more than usually raised. The holes are numerous and close set.

Species 28. (Mus. Cuming.)

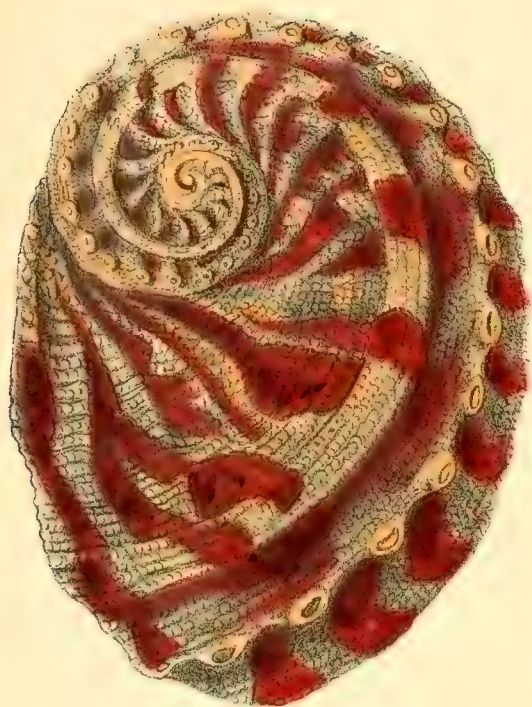
HALIOTIS OVINA. *Hal. testā suborbiculari-ovatā, convexo-depressā, spirā plano-depressā, anfractibus rugis tumidis plicato-radiatis, foraminibus tubiferis, quinque senis perviis; rubro aut viridi pulcherrimè marmoratā, intus argentēā.*

THE SHEEP HALIOTIS. Shell somewhat orbicularly ovate, convexly depressed, spire flatly depressed, whorls plicately rayed with swollen wrinkles; holes tubiferous, five or six open; exterior very beautifully marbled with orange-red or green, interior silvery.

CHEMNITZ, Conch. Cab. vol. x. p. 315. pl. 166. f. 1609.

Hab. New Holland and the Philippine Islands.

An extremely characteristic species, an orange-red marbled example of which is very correctly represented by Chemnitz; neither Lamarck nor Deshayes appear to have been acquainted with it.



29



30



31

HALIOTIS.

PLATE X.

Species 29. (Mus. Brit.)

HALIOTIS EMMÆ. *Hal. testā suborbiculari-ovatā, tenuiculā, convexā, spiraliter subtilissimè granoso-liratā, medio leviter obtuso-carinatā, circa spiram radiatim plicatā, spirā conspicuā subcentrali; foraminibus tubiferis, senis perviis; vividè rubrā, zonis albis undatis obliquè radiatā.*

EMMA'S HALIOTIS. Shell somewhat orbicularly ovate, rather thin, convex, spirally very finely granosely ridged, slightly obtusely keeled in the middle, radiately plicated around the spire, spire conspicuous, subcentral; perforations tubiferous, six open; bright red, obliquely rayed with white waved zones.

GRAY, MSS. British Museum.

Hab. New Holland.

A very striking, brightly coloured species, allied in structure to the *H. rubicundus*, and belonging to the genus *Padollus* of De Montford.

Species 30. (Mus. Cuming.)

HALIOTIS ALBICANS. *Hal. testā suborbiculari-ovatā, convexā, lævigatā aut spiraliter obsolete lirātā; foraminibus parvis, numerosis, decenis perviis; extus luteo-coccineā, flammulis albidis radiatā intus argenteā.*

THE WHITISH HALIOTIS. Shell somewhat orbicularly ovate, convex, smooth or spirally obsoletely ridged; perforations small, numerous, ten open; exterior yel-

lowish scarlet, rayed with whitish flames, interior silvery white.

QUOY and GAIMARD, Voyage de l'Astrolabe, vol. iii. p. 311. pl. 68. f. 1, 2.

Hab. New Zealand.

No one can fail to distinguish this species by its delicate rayed style of colouring; the perforations are more than usually small, and the silvery interior is characterized by a kind of minute wavy pattern.

Species 31. (Mus. Cuming.)

HALIOTIS DISCUS. *Hal. testā oblongo-ovatā, elevato-convexā, hic illic tumidā et rugosā, latere sinistro lato, peculiariter erecto; foraminibus amplis, subdistantibus, tubiferis, quaternis tantum perviis; castaneo-fuscā, viridi aut rufescente radiatim tinctā.*

THE QUOIT HALIOTIS. Shell oblong ovate, elevately convex, here and there swollen and wrinkled, left side broad, peculiarly erect; perforations large, rather distant, tubiferous, four only open; chesnut brown, faintly radiated with red or green.

REEVE, Pro. Zool. Soc., 1846.

Hab. Japan; Dr. Siebold.

Chiefly distinguished from any species hitherto recorded by its oblong form, and erect growth of the perforated side of the shell.



32a



32b



33



34

HALIOTIS.

PLATE XI.

Species 32. (Mus. Cuming.)

HALIOTIS SIEBOLDII. *Hal. testâ subobliquè ovatâ, subpectinatâ, valdè convexâ, apice terminali, vix spirali; radiatim lirâtâ, liris obtusis, subdistantibus; foraminibus subamplis, quinis perviis; extus aurantio-rubrá, intus albicante, iridescente.*

SIEBOLD'S HALIOTIS. Shell somewhat obliquely ovate, a little pectinated, very convex, apex terminal, scarcely spiral; radiately ridged, ridges obtuse, rather distant; holes rather large, five open; exterior orange-red, interior white, iridescent.

REEVE, Pro. Zool. Soc., 1846.

Hab. Japan; Dr. Siebold.

This very remarkable species, which is at present unique in the collection of Hugh Cuming, Esq., has very much the form of a *Concholepas* or the left valve of a *Cardium*; its resemblance to the latter is, however, probably the more striking. It is of a hollow ventricose growth, the apex with scarcely any spiral, terminating on the margin, like the umbone of a Cockle.

Species 33. (Mus. Cuming.)

HALIOTIS BISTRIATA. *Hal. testâ oblongo-ovatâ, subplanulatâ, spiraliter lirâtâ, liris valdè irregularibus nunc latis, nunc angustis, interstitiis incisis; latere sinistro latiusculâ, foraminibus senis perviis; rubido-fusco viridique variegatâ, maculis albidis irregularibus interdum aspersâ.*

THE DOUBLE-STRIATED HALIOTIS. Shell oblong-ovate,

rather flattened spirally ridged, ridges very irregular, sometimes broad, sometimes narrow, interstices engraved; left side rather broad, six holes open; variegated with green and reddish brown, sometimes sprinkled with irregular white spots.

GMELIN, Syst. Nat. p. 3691.

Hab. Mozambique.

This species may be recognised by the very irregular width of the ridges and sharply engraved interstices; it is sometimes very prettily variegated with red and green, but a dark reddish brown sprinkled with whitish spots is the predominating colour.

Species 34. (Mus. Saul.)

HALIOTIS TUBERCOLATA. *Hal. testâ ovatâ, convexo-depressâ, spiraliter inciso-striatâ, radiatim tuberculatoplicatâ, plicis inæqualibus, plus minusve tumidis; rubido-fuscâ, viridi aut rufescente variegatâ.*

THE TUBERCULATED HALIOTIS. Shell ovate, convexly depressed, spirally deeply striated, radiately tubercularly plicated, plaits unequal, more or less swollen; reddish brown, variegated with red and green.

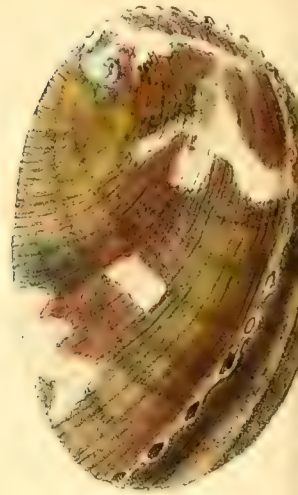
LINNÆUS. Syst. Nat. 10th. edit. p. 780.

Hab. Guernsey &c.

Extremely variable in its colouring, which is sometimes a dull mixture of red and green, at other times a reddish brown ornamented with light green zigzag waves, as in the specimen selected for illustration.



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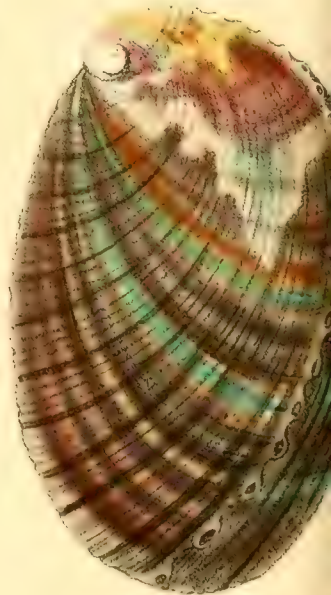


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Sowerby, del. et lith.



39

Reeve, imp.

HALIOTIS.

PLATE XII.

Species 35. (Mus. Cuming.)

HALIOTIS SQUAMATA. *Hal. testā oblongo-ovatā, convexā, spiraliter lirātā, liris creberrimis, squamatis, alternis majoribus; foraminibus octonis perviis; fuscā et rubro-fuscā, flammulis lutescentibus undatis ornatis, intus vividè iridescente.*

THE SQUAMATE HALIOTIS. Shell oblong-ovate, convex, spirally ridged, ridges very close-set, squamate, the alternate the larger; eight perforations open; brown and reddish brown, ornamented with yellowish waved flames.

REEVE, Pro. Zool. Soc., 1846.

Hab. North West Coast of Australia; Dring, H.M.S. Beagle.

The form of this shell is rather more than usually convex, and the surface is closely set throughout with fine ridges of scales, the colouring being a rich red-brown ornamented with waved yellowish flames.

Species 36. (Mus. Cuming.)

HALIOTIS VIRGINEA. *Hal. testā ovatā, depressā, spiraliter tenuè sulcatā, liris intermediis sæpissimè duplicatis; foraminibus senis perviis; fuscā, rubro viridique plus minusve tinctā, maculis grandibus albis irregulariter notatā.*

THE VIRGIN HALIOTIS. Shell ovate, depressed, spirally grooved, intermediate ridges very often duplicate; six perforations open; brown, more or less stained with red and green, irregularly marked with large white blotches.

CHEMNITZ, Conch. Cab. vol. x. p. 314. pl. 166. f. 1607, and 1608.

Distinguished among other characters by the irregular scattered white blotches.

Species 37. (Mus. Saul.)

HALIOTIS IRIS. *Hal. testā ovato-oblongā, convexā, posticè attenuatā, spirā terminali, peculiariter decussatim corrugatā et plicatā, latere sinistro lato, erecto; foraminibus quinis perviis; extus luteo viridique variegatā, intus cæruleo viridique vividè iridescente.*

THE RAINBOW HALIOTIS. Shell ovately oblong, convex, attenuated posteriorly, spire terminal, peculiarly decussately plicated and wrinkled, left side broad, erect;

five perforations open; exterior variegated with green and yellow, interior blue and green, brightly iridescent.

GMELIN, Syst. Nat. p. 3691.

Hab. Kangaroo Island, Australia.

This well-known species may be recognised by its oblong hollow form, and flat inflexion of the margin in the vicinity of its terminal spire; the indented surface of the shell is also peculiar.

Species 38. (Mus. Cuming.)

HALIOTIS FUNEBRIS. *Hal. testā ovatā, subdepresso-convexā, spiraliter lirātā, liris subsquamatis, hic illic majoribus, transversim peculiariter rugoso-plicatā; foraminibus octonis aut novenis perviis; rubido-castaneā, interdum viridi tinctā, flammis perpaucis indistinctis circa spiram.*

THE MOURNING HALIOTIS. Shell ovate, somewhat depressly convex, spirally ridged, ridges slightly squamate, here and there larger, transversely peculiarly rugosely plicated; perforations eight or nine open; reddish chestnut sometimes tinged with green, with a few indistinct light flames around the spire.

REEVE, Pro. Zool. Soc. 1846.

Hab. New Holland.

This is a larger and flatter species than the *H. squamata*, and the ridges are more widely separated and less squamate.

Species 39. (Mus. Hudson.)

HALIOTIS DIVERSICOLOR. *Hal. testā ovatā, subplanulatā, spiraliter lirātā, liris obtusis irregularibus, transversim leviter plicatā; foraminibus octonis vel novenis perviis; castaneo-fusco coccineo-rufa viridique radiatā, maculis undatis lutescentibus variegatā.*

THE DIVERS-COLOURED HALIOTIS. Shell ovate, rather flattened, spirally ridged, ridges obtuse, irregular, transversely slightly plicated; perforations eight or nine open, rayed with chestnut brown, scarlet-red and green, and more or less variegated with zigzag yellowish blotches.

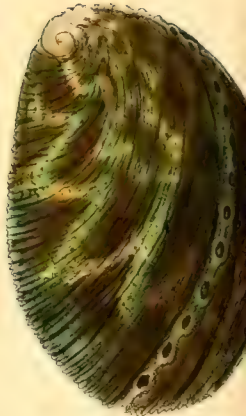
REEVE, Pro. Zool. Soc., 1846.

Hab. New Holland.

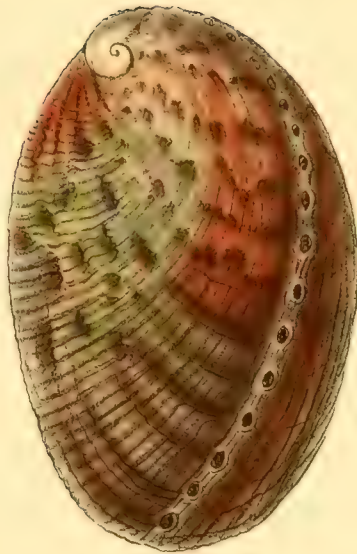
This species may be distinguished amongst other characters by the brightness and variety of its colours.



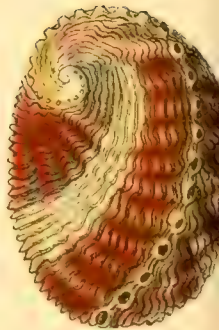
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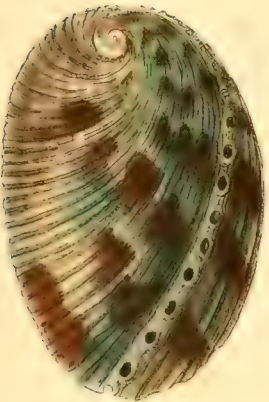
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HALIOTIS.

PLATE XIII.

Species 40. (Mus. Cuming.)

HALIOTIS VIRIDIS. *Hal. testā ovatā, depresso-convexā, obliquē undato-rugatā, spiraliter liratā, litarum interstitiis subtilissimē striatis; foraminibus quinque perviis; extus albicante, viridi pulcherrimē tinctā et marmoratā, intus argenteā.*

THE GREEN HALIOTIS. Shell ovate, depressly convex, obliquely undately wrinkled, spirally ridged, interstices between the ridges very finely striated; five perforations open; exterior whitish, beautifully stained and marbled with green, interior silvery.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

Very closely allied to the *H. varia*, from which it differs only in the depression of the spire, and a slight though characteristic variation in the sculpture.

Species 41. (Mus. Cuming.)

HALIOTIS ASTRICTA. *Hal. testā ovatā, convexā, spiraliter liratā, liris laminis striisque elevatis irregularibus radiatim decussatis; foraminibus quaternis perviis; extus albido olivaceo-viridique marmoratā, intus iridescente.*

THE TIED HALIOTIS. Shell ovate, convex, spirally ridged, radiately crossed with irregular raised striae and laminae; four perforation open; exterior marbled with white and olive green, interior iridescent.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

Distinguished by the strong decussating sculpture of the cross ridges.

Species 42. (Mus. Hanley.)

HALIOTIS GIBBA. *Hal. testā oblongo-ovatā, peculiariter convexā aut gibbā, spiraliter liratā, liris irregularibus, crebriusculis; spirā subterminali; foraminibus quinque perviis; extus fusco- et cæruleo-viridi, strigis albidis, rufo-punctatis, undatis, interdum ornatā, intus peculiariter iridescente.*

THE GIBBOUS HALIOTIS. Shell oblong-ovate, peculiarly convex or gibbous, spirally ridged, ridges irregular, rather close-set, spire nearly terminal; five perforations open; exterior brownish or blueish green,

sometimes ornamented with white, red-dotted, waved streaks, interior peculiarly iridescent.

PHILIPPI, Abbild. und Besch. Conch. *Haliotis*, Pl. ix. f. 2, a and b.

Hab. — ?

The inner surface of this very characteristic species is disposed in minute wrinkles, from which the refraction of light throws off a peculiar degree of iridescence.

Species 43. (Mus Taylor.)

HALIOTIS TAYLORIANA. *Hal. testā oblongo-ovatā, solidiusculā, convexā, spirā subterminali; spiraliter obtusē et irregulariter liratā; foraminibus septenis ad novenis perviis; extus coccineo-fuscā, flavido, coccineo-fusco, maculato, prope spiram nebulatā, intus albicante.*

TAYLOR'S HALIOTIS. Shell oblong-ovate, rather solid, convex, spire nearly terminal; spirally obtusely and irregularly ridged; seven to nine perforations open; exterior scarlet-brown, clouded near the spire with yellow spotted with scarlet-brown, interior white.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

I have the pleasure of describing this comparatively rare species from specimens in the collection of Thos. Lombe Taylor, Esq. It is of a dull scarlet-brown, the posterior portion of the shell being clouded with pale yellow, peculiarly mottled with dashes of the darker colour.

Species 44. (Mus. Cuming.)

HALIOTIS MARMORATA. *Hal. testā depresso-ovatā, dextrorsum posticè effusā, spirā subterminali; spiraliter planicostatā, sulcis intermediis subexcavatis; foraminibus senis vel septenis perviis, extus viridi, rufo marmoratā, intus albicante.*

THE MARBLED HALIOTIS. Shell depressly ovate, effused posteriorly on the right side, spire nearly terminal, spirally flatly ribbed, intermediate ridges rather excavated; six or seven perforations open; dark green, marbled with red, interior whitish.

GRAY, MSS. (private cabinet).

There is a peculiarity in the growth of this shell, in the right posterior extremity being so prominently effused round the spire.

July, 1846.

Species 45. (Mus. Cuming.)

HALIOTIS RUBIGINOSA. *Hal. testá ovatá, subdepresso-convexá, radiatim plicato-rugosá, spiraliter líratá, líris obtusè squamatis, foraminibus subapproximatis, senis perviis; extus rubiginoso-aurantiá, spiraliter albistrigatá, intus argenteá.*

THE RUSTY HALIOTIS. Shell ovate, rather convex, radiately plicated wrinkled, spirally ridged, ridges obtusely scaled; perforations rather approximated, six open; exterior rusty orange, spirally streaked with white.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

Besides the peculiarity of sculpture, it is very fairly characterized by its rusty orange painting and silvery interior.

Species 46. (Mus. Cuming.)

HALIOTIS COCCORADIATA. *Hal. testá suborbiculari-ovatá, plano-convexá, medio leviter depressá, spiraliter subtiliter líratá, líris striis minutis elevatis decussatis; foraminibus senis perviis; flavidá, strigis latis vividè coccineis radiatim pictá.*

THE SCARLET-RAYED HALIOTIS. Shell somewhat orbicularly ovate, flatly convex, slightly depressed in the middle, spirally finely ridged, ridges crossed with minute raised striæ; yellowish, radiately painted with broad, bright scarlet streaks.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

No one can fail to recognize this delicate and very striking scarlet-rayed species. The ridges are minutely beaded, as it were, with transverse striæ, and the surface of the shell is peculiarly indented.



HALIOTIS.

PLATE XIV.

Species 47. (Mus. Cuming.)

HALIOTIS SPECIOSA. *Hal. testā oblongo-ovatā, plano-convexā, medio depressā, spiraliter elevato-stiatā, striis confertis; foraminibus senis perviis; coccineo-rufā, albo, nigricante marginatā, pulcherrimè variegatā.*

THE HANDSOME HALIOTIS. Shell oblong-ovate, flatly convex, depressed in the middle, spirally elevately striated, striæ close-set; six perforations open; scarlet-red, beautifully variegated with black-edged white.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

This is a very gay species, the colour being a rich scarlet red, variegated with broad zigzag flames, edged along the front with black.

Species 48. (Mus. Cuming.)

HALIOTIS RETICULATA. *Hal. testā oblongo-ovatā, anticè subattenuatā, plano-convexā, medio depressā, latere sinistro latiusculo, erecto, spiraliter vix striatā; foraminibus quaternis perviis; sordidè fuscā, maculis albidis reticulatis, subtriangularibus, ornatā.*

THE RETICULATED HALIOTIS. Shell oblong-ovate, somewhat attenuated, flatly convex, depressed in the middle, left side rather broad, erect, spirally slightly striated; four perforations open; dull dark brown, ornamented with somewhat triangular reticulated white spots.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

May be recognized by the triangular reticulated style of the painting.

Species 49. (Mus. Cuming.)

HALIOTIS NEBULATA. *Hal. testā oblongo-ovatā, convexā, spirā subelevatā, spiraliter sulcatā, sulcis parvis, undatis; foraminibus subapproximatis, septenis perviis; fusco roseoque undique nebulatā.*

THE CLOUDED HALIOTIS. Shell oblong-ovate, convex, spire rather elevated, spirally grooved, grooves small,

waved; perforations rather approximated, seven open; clouded throughout with brown and red.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

Very distinct, both in form and in its style of painting.

Species 50. (Mus. Cuming.)

HALIOTIS SEPICULATA. *Hal. testā ovatā, spiraliter peculiariter liratā, liris angustis, erectis, valdè irregularibus, radiatim undato-plicatā; foraminibus amplis, senis perviis; olivaceo-viridi, hic illic albipunctatā.*

THE HEDGED HALIOTIS. Shell ovate, spirally peculiarly ridged, ridges narrow, erect, very irregular, radiately undately plicated; perforations large, six open; dark olive green, here and there dotted with white.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

A fine species, well-characterized by the erect development of the ridges.

Species 51. (Fig. *a*, Mus. Hanley, *b*, Mus. Cuming, *c*, Mus. Metcalfe.)

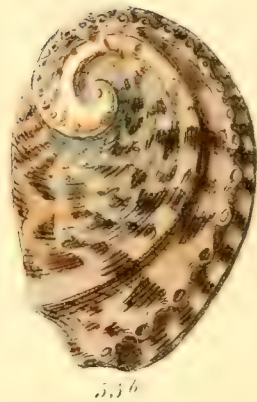
HALIOTIS SEMISTRIATA. *Hal. testā ovatā, spiraliter subtiliter liratā, radiatim undato-plicatā et plus minusve tuberculosā; foraminibus subtubiferis, quinis perviis; fuscā aut coccineo-rufā, albimaculatā.*

THE HALF-STRIATED HALIOTIS. Shell ovate, spirally finely ridged, radiately undately plicated, and more or less tuberculated; perforations a little tubiferous, five open; brown or scarlet red, spotted or streaked with white.

REEVE, Pro. Zool. Soc., 1846.

Hab. Ceylon; Dr. Sibbald.

A well-marked species, though extremely variable in its colouring and sculpture, some specimens being covered with swollen tubercles, whilst others are comparatively smooth; as a general rule it may be observed that the spiral half of the shell is the more distinctly striated or finely ridged. Care should be taken not to confound this species with the *Haliotis varia*, to which it has some slight resemblance, though differing in colour.



HALIOTIS.

PLATE XV.

Species 52. (Mus. Metcalfe.)

HALIOTIS PUSTULATA. *Hal. testā oblongo-ovatā, spiraliter obscure liratā et tuberculis parvis pustulatā, radiatim plicatā; foraminibus senis perviis; albidā viridique pulcherrimè marmoratā.*

THE PUSTULATED HALIOTIS. Shell oblong-ovate, spirally obscurely ridged, and pustulated with small tubercles, radiately plicated, six perforations open; beautifully marbled with green and white.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

A prettily variegated species, distinguished by its obscure tubular sculpture.

Species 53. (Fig. *a*, Mus. Metcalfe, Fig. *b*, Mus. Cuming.)

HALIOTIS PARVA. *Hal. testā orbiculari-ovatā, spiraliter crebriusculā, medio subdepressā, costā unicā conspicuā rotundatā notatā; foraminibus tubiferis, senis perviis; vividè coccineo-rufā.*

THE SMALL HALIOTIS. Shell orbicularly ovate, spirally closely striated, a little depressed in the middle, and marked with a single conspicuous rounded rib; perforations tubiferous, six open, bright scarlet red.

Variety β . (Fig. 53, *b*.)

Testā viridescens-albidā, purpureo-rufa pulcherrimè variegatā et strigatā.

Shell beautifully variegated and streaked with greenish white and purple-red.

LINNEUS, Syst. Nat. (12th edit.) p. 1256.

Haliotis canaliculata, Lamarck.

Hab. — ?

The varieties of this species above noted are so very distinct and characteristic, that I was strongly tempted, at one time, to regard them of specific importance; the distinction is not, however, supported by the slightest variation in form or sculpture. Another circumstance in testimony of their specific relation, is, that both varieties are frequently more or less covered with a peculiar kind of deposit, probably coralline, which I have not observed on any other species.

Species 54. (Mus. Cuming.)

HALIOTIS AQUATILIS. *Hal. testā oblongo-ovatā, plano-*

convexā, medio depressā, lævigatā, prope marginem peculiariter plicatā; foraminibus senis perviis; pallidè viridi, albido aut flavicante undato-variegatā, intus albicante.

THE RIPPLED HALIOTIS. Shell oblong-ovate, flatly convex, depressed in the middle, smooth, peculiarly plicated near the margin; six perforations open; light green, undately variegated with yellowish white, interior whitish.

REEVE, Pro. Zool. Soc., 1846.

Hab. Kurile Islands, south of Kamtschatka.

There is a marked peculiarity in the form and colouring of this species, independently of the rippled plications near the margin.

Species 55. (Mus. Cuming.)

HALIOTIS JANUS. *Hal. testā oblongo-ovatā, spiraliter liratā, liris subtilibus angustis, interstitiis excavatis; foraminibus senis perviis; luteo-aurantiā, fasciā latā albidā, fusco grandimaculatā, prope foramina ornatā.*

THE TWO-FACED HALIOTIS. Shell oblong-ovate, spirally ridged, ridges fine, narrow, interstices excavated, six perforations open; yellowish orange, ornamented next the perforations with a broad white band, coloured with large broad spots.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

The curious double style of painting which this shell exhibits is peculiar to the species, and not, as one might be led to imagine, a mere casual variety.

Species 56. (Mus. Cuming.)

HALIOTIS CRUENTA. *Hal. testā ovatā, anticè subattenuatā, spirā elevatiusculā, spiraliter peculiariter undato- et corrugato-striatā; foraminibus subapproximatis, octonis perviis; sanguineo albipunctato et albido sanguineopunctato pulcherrimè variegatā.*

THE BLOOD-SMEARED HALIOTIS. Shell ovate, a little attenuated anteriorly, spire rather elevated, spirally peculiarly striated in a waved and wrinkled manner; perforations somewhat approximated, eight open; beautifully variegated with white-dotted scarlet and scarlet-dotted white.

REEVE, Pro. Zool. Soc., 1846.

July, 1846.

Hab. New Zealand.

A very pretty species, perfectly distinguished from any other in form, sculpture, and colouring.

Species 57. (Mus. Cuming.)

HALIOTIS INCISA. *Hal. testā ovatā, medio subdepressā, spiraliter incisā, subtuberculiferā; foraminibus amplis, quaternis perversis; albidā et purpureo-viridi marmoratā, albido minutissimè rufo-punctato.*

THE ENGRAVED HALIOTIS. Shell ovate, a little depressed in the middle, spirally engraved, slightly tuberculiferous; perforations large, four open; marbled with white and purple-green, the white very minutely dotted with red.

REEVE, Pro. Zool. Soc., 1846.

Hab. —?

Almost the entire surface of this shell is minutely speckled with red, over the green and white marbling.



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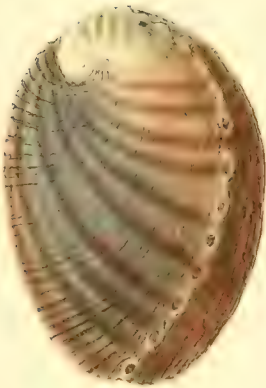
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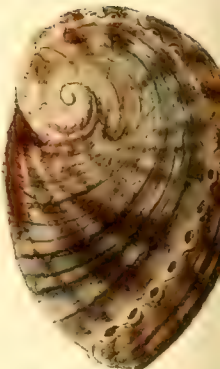
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HALIOTIS.

PLATE XVI.

Species 58. (Mus. Cuming.)

HALIOTIS STRIATA. *Hal. testā oblongo-ovatā, convexo-depressā, spirā subprominulā; spiraliter crebristriatā, radiatim leviter rugosā; foraminibus senis perviis; intus striatā, iridescente, extus ferrugineo, rufo, alboque marmoratā.*

THE STRIATED HALIOTIS. Shell oblong-ovate, convexly depressed, spire rather prominent; spirally closely striated, radiately lightly wrinkled; six perforations open; interior striated, iridescent, exterior marbled with rusty brown, red, and white.

LINNÆUS, Syst. nat. (12th edit.) p. 1256.

Hab. — ?

I refer this shell to the *H. striata* of Linnæus, as being the nearest to accord with his description; it is quite impossible to identify the species with any degree of certainty.

Species 59. (Mus. Cuming.)

HALIOTIS RUGOSA. *Hal. testā ovatā, convexā, medio leviter depressā, radiatim plicato-rugosā, spiraliter liratā, liris obtusis, hic illic majoribus; foraminibus subamplis, quaternis perviis; extus olivaceo-fusco viridique marmoratā.*

THE ROUGH HALIOTIS. Shell ovate, convex, slightly depressed in the middle, radiately plicately wrinkled, spirally ridged, ridges obtuse, here and there larger; perforations rather large, four open; exterior marbled with olive-brown and green.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

The ridges of this species are somewhat irregular near the apex, but in the middle they are arranged alternately one broad and three narrow.

Species 60. (Mus. Cuming.)

HALIOTIS ROSACEA. *Hal. testā ovatā, convexo-depressā, spiraliter crebriliratā, liris striis exsculptis undique decussatis; foraminibus peculiariter oblongo-ovatis, quaternis perviis; extus corallo-rubro et roseo-albicante marmoratā, rubro viridi punctato.*

THE ROSE-TINTED HALIOTIS. Shell ovate, convexly depressed, spirally closely ridged, decussated throughout with engraved striæ; perforations peculiarly oblong

ovate, four open; exterior marbled with deep coral red punctured with green.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

It is impossible to give any other than a very faint conception of this beautiful shell in a figure, the entire surface has a most delicate beaded appearance, and the colouring is extremely rich; there is also a marked peculiarity in the oblong shape of the perforations which very nearly approximate.

Species 61. (Mus. Cuming.)

HALIOTIS PERTUSA. *Hal. testā oblongo-ovatā, spiraliter posticè subtilissimè sulcatā, sulcis pertusis, anticè exiliter liratā, sulcis lirisque subirregularibus et undatis; foraminibus senis perviis; extus rufo-fuscā, strigis perpauca lutescentibus undatis prope spiram, intus vividè iridescente.*

THE PRICKED HALIOTIS. Shell oblong-ovate, spirally posteriorly very finely grooved, grooves pricked, anteriorly faintly ridged, grooves and ridges rather irregular and waved; six perforations open; exterior ruddy brown, with a very few yellowish zigzag streaks near the spire, interior brightly iridescent.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

One half of the shell, next the spire, is sculptured with faint pricked grooves, the other with fine waved ridges.

Species 62. (Mus. Metcalfe.)

HALIOTIS PLANILIRATA. *Hal. testā ovatā, plano-convexā, spiraliter liratā, liris planulatis, irregularibus; foraminibus quinis perviis; olivaceo- et cæruleo-viridi.*

THE FLAT-RIDGED HALIOTIS. Shell ovate, flatly convex, spirally ridged, ridges flattened, irregular; five holes open; olive and blueish green.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

May be recognised by its dark blue-green flattened growth.

Species 63. (Mus. Hanley.)

HALIOTIS SCUTULUM. *Hal. testā convexā, spirā depressā*

July, 1846.

suboccultâ, spiraliter exiliter liratâ, liris planulatis, undulatis, his iltic majoribus; foraminibus senis perviis; olivaceo-fuscâ, viridi pulcherrimè articulatâ, punctatâ, et maculatâ.

THE SHIELD HALIOTIS. Shell convex, spire depressed, rather concealed, spirally faintly ridged, ridges flattened, waved, here and there larger; six holes open; olive-brown, very beautifully articulated, dotted and spotted with green.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

The ridges of this species have a peculiar undulating character, and towards the middle of the shell are arranged one broad and three narrow alternately.

Species 64. (Mus. Cuming.)

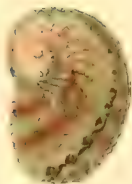
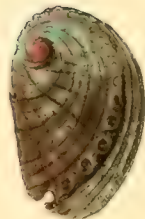
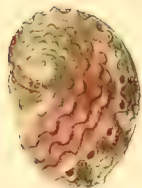
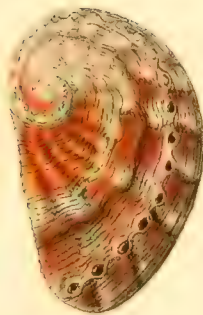
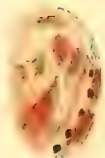
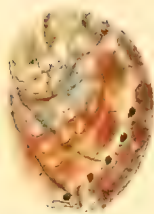
HALIOTIS ZEALANDICA. *Hal. testâ oblongo-ovatâ, subdepressâ, spiraliter irregulariter sulcatâ. liris intermediis obtusis, nunc latis, nunc angustis, foraminibus senis perviis; rufo-castaneo et albicante peculiariter marmoratâ.*

THE NEW ZEALAND HALIOTIS. Shell oblong, rather depressed, spirally irregularly grooved, intermediate ridges obtuse, now broad, now narrow; six holes open; exterior peculiarly marbled with reddish chestnut and red-tinged white.

REEVE, Pro. Zool. Soc., 1846.

Hab. New Zealand.

Distinguished by the curious irregularity of the grooves, and its style of painting.



HALIOTIS.

PLATE XVII.

Species 65. (Mus. Cuming.)

HALIOTIS DRINGII. *Hal. testâ orbiculari-ovatâ, spiraliter striatâ, radiatim plicatâ et tuberculosâ; foraminibus subtubiferis, quaternis perviis; extus pallidè viridescente-luteâ, medio conspicuè coccineo-tinctâ, intus argenteâ.*

DRING'S HALIOTIS. Shell orbicularly ovate, spirally striated, radiately plicated and tuberculated; perforations a little tubiferous, four open; exterior pale greenish yellow, conspicuously stained in the middle with scarlet, interior silvery.

REEVE, Pro. Zool. Soc., 1846.

Hab. North coast of Australia; Dring.

I dedicate this interesting little species to Mr. Dring, of H. M. S. Beagle, in remembrance of the many beautiful new species of shells for which we are indebted to him, from the comparatively unexplored region above noted.

Species 66. (Mus. Cuming.)

HALIOTIS CONCINNA. *Hal. testâ suboblongo-ovatâ, spiraliter striatâ, medio leviter tuberculatâ, obliquè subobscure plicatâ; foraminibus quaternis perviis; carneo-albicante, coccineo-roseo profusè variegatâ.*

THE NEAT HALIOTIS. Shell somewhat oblong-ovate, spirally striated, slightly tuberculated in the middle, obliquely rather obscurely plicated; four perforations open; fleshy white, profusely variegated with scarlet-rose

REEVE, Pro. Zool. Soc., 1846.

Hab. Zamboanga, Island of Mindanao, Philippines; Cuming.

Another gaily-coloured species of similar style of painting, but of a totally different form.

Species 67. (Mus. Cuming.)

(Magnified double.)

HALIOTIS GEMMA. *Hal. testâ suborbiculari-ovatâ, plano-convexâ, latere sinistro latiusculo; spiraliter tuberculatâ, radiatim pulcherrimè minutè plicato-squamatâ; foraminibus subtubiferis, quaternis quinise perviis; flavescente, coccineo viridique tinctâ.*

THE GEM HALIOTIS. Shell somewhat orbicularly ovate, flatly convex, left side rather broad; spirally tuberculated, radiately very beautifully minutely plicately

sealed; perforations a little tubiferous, four or five open; yellowish, stained with scarlet and green.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

The surface of this beautiful little species, besides being tuberculated, is covered with minute scales, which present a rather more prominent character on the left side beneath the perforations.

Species 68. (Mus. Cuming.)

HALIOTIS LAUTA. *Hal. testâ ovatâ, anticè attenuatâ, undato-lunatâ, spiraliter liratâ, liris subtilibus, confertis, striis minutis decussatis; foraminibus subamplicis, quinise perviis; rubido et flavescente-albidâ irregulariter marmoratâ.*

THE SHOWY HALIOTIS. Shell ovate, anteriorly attenuated, undately swollen, spirally ridged, ridges very fine, close-set, decussated with minute striae; perforations rather large, five open; irregularly marbled with red and yellowish-white.

REEVE, Pro. Zool. Soc., 1846.

Hab. Swan River Settlement, New Holland; Lieut. Preston.

In form, and in the character of the perforations, this species bears some resemblance to the *H. sanguinea*, though its relation is very remote in other respects.

Species 69. (Mus. Cuming.)

HALIOTIS PAPULATA. *Hal. testâ suborbiculari-ovatâ, spiraliter obtuso-liratâ, liris subdistantibus, conspicuè tuberculatis; foraminibus subtubiferis, quaternis perviis; corallo-rubidâ, flavescente variâ.*

THE PIMPLED HALIOTIS. Shell somewhat orbicularly ovate, spirally obtusely ridged, ridges rather distant, conspicuously tuberculated; perforations a little tubiferous, four open; dark coral-red, variegated here and there with patches of yellow.

REEVE, Pro. Zool. Soc., 1846.

Hab. North coast of Australia; Dring.

The pimpled sculpture of this shell is of a much more prominent character than that of the first three species of the plate.

Fig. 70.

The shell here figured from the cabinet of Mr. Gray, proves, on further examination, to be the young of *H. sanguinea*.

Species 70. (Fig. 71, Mus. Cuming.)

HALIOTIS ANCILE. *Hal. testā ovatā, regulariter convexā, spiraliter exiliter noduloso-striatā, nodulis interdum subobscuris, interruptis; foraminibus numerosis, parvis, octonis perviis; olivaceo-viridi, nodulis et circa spiram cupro-roseis.*

THE MARTIAN BUCKLER HALIOTIS. Shell ovate, uniformly convex, spirally faintly nodulously striated, nodules sometimes nearly obscure, interrupted; perforations numerous, small, eight open; olive-green, nodules and around the spire coppery rose-red.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

An uniform convex shell striated with faint, interrupted, irregular, nodulous striæ of a coppery rose hue, with the perforations very small and numerous.

Species 71. (Fig. 72 Mus. Cuming.)

HALIOTIS CLATHRATA. *Hal. testā semicirculari-ovatā, spiraliter crebriliratā, interstitiis striis subtilissimè clathratis, radiatim plicatā; foraminibus subamplis, quinis perviis; viridi et vividè rufo variegatā.*

THE LATTICED HALIOTIS. Shell semicircularly ovate, spirally closely ridged, interstices very finely latticed with striæ, radiately plicated; perforations rather large, five open; variegated with green and bright red.

REEVE, Pro. Zool. Soc., 1846.

Hab. Baclayon, Island of Bohol, Philippines; Cuming.

An interesting little species finely latticed between the ridges, and strongly plicated immediately around the spire.

Species 72. (Mus. Cuming.)

HALIOTIS JACNENSIS. *Hal. testā oblongo-ovatā, spiraliter peculiariter rudè liratā, liris valdè irregularibus, subsquamosis, prope foramina sublævigatā; foraminibus subtubiferis, distantibus; rufescente-aurantiā, intus argenteā.*

THE JACNA HALIOTIS. Shell oblong-ovate, spirally peculiarly rudely ridged, ridges very irregular and rather scaly, somewhat smooth next the perforations, which are slightly tubiferous and distant; reddish-orange, interior silvery.

REEVE, Pro. Zool. Soc., 1846.

Hab. Jacna, Island of Bohol, Philippines; Cuming.

A very characteristic species, to which there is little or no approximation in any other.

Species 73. (Fig. 74, Mus. Cuming.)

HALIOTIS STOMATIEFORMIS. *Hal. testā oblongo-ovatā, valdè convexā, spiraliter striatā, radiatim subtiliter plicatā, spirā subterminali, elevatā; foraminibus quinis perviis; olivaceo viridique marmoratā.*

THE STOMATIA-SHAPED HALIOTIS. Shell oblong-ovate, very convex, spirally striated, radiately finely plicated, spire nearly terminal, elevated; five perforations open; marbled with olive and green.

REEVE, Pro. Zool. Soc., 1846.

Hab. New Zealand.

Well distinguished by its conspicuously convex oblong form, resembling in great measure that of some of the *Stomatia*

HALIOTIS.

[Temporary Index.]

albicans, <i>Quoy</i>	X.	30	Midæ, <i>Linnæus</i>	V.	15
ancile, <i>Reeve</i>	XVII.	70	multiperforata, <i>Reeve</i>	IX.	15
aquatilis, <i>id</i>	XV.	54	naevosa, <i>Martyn</i>	IX.	27
asinina, <i>Linnæus</i>	VI.	18	nebulata, <i>Reeve</i>	XIV.	49
astricta, <i>Reeve</i>	XIII.	41	ovina, <i>Chemnitz</i>	IX.	28
australis, <i>Lamarck</i>	III.	7	papulata, <i>Reeve</i>	XVII.	69
bistriata, <i>Gmelin</i>	XI.	33	parva, <i>Linnæus</i>	XV.	53
Californiensis, <i>Swainson</i>	VIII.	26	pertusa, <i>Reeve</i>	XVI.	61
canaliculata, <i>Lamarck</i>	XV.	53	planilirata, <i>id</i>	XVI.	62
canaliculata, <i>Schubert</i>	II.	5	pulcherrima, <i>Martyn</i>	I.	1
Capensis, <i>Dunker</i>	V.	16	pustulata, <i>Reeve</i>	XV.	52
clathrata, <i>Reeve</i>	XVII.	71	reticulata <i>Reeve</i>	XIV.	48
coccinea, <i>id</i>	VII.	22	<i>Roedingii</i> , <i>Menke</i>	VII.	20
coccoradiata, <i>id</i>	XIII.	46	Roei, <i>Gray</i>	IV.	10
concinna, <i>id</i>	XVII.	66	rosacea, <i>Reeve</i>	XVI.	60
corrugata, <i>Gray</i>	IV.	12	ruber, <i>Leach</i>	IX.	17
Cracherodii, <i>Leach</i>	VII.	23	rubicunda, <i>Gray</i>	II.	5
cruenta <i>Reeve</i>	XV.	56	rubiginosa, <i>Reeve</i>	XIII.	45
Cunninghamii, <i>Gray</i>	I.	3	rufescens, <i>Swainson</i>	II.	6
dentata, <i>Jonas</i>	IV.	11	rugosa, <i>Reeve</i>	XVI.	59
discus, <i>Reeve</i>	X.	31	rugoso-plicata <i>Chemnitz</i>	III.	7
diversicolor, <i>Reeve</i>	XII.	39	sanguinea, <i>Hanley</i>	VI.	17
Dringii, <i>Reeve</i>	XVII.	65	scabricosta <i>Menke</i>	IV.	10
elegans, <i>Koch</i>	VII.	21	seutulum, <i>Reeve</i>	XVI.	63
Emmæ, <i>Gray</i>	X.	29	semistriata, <i>id</i>	XIV.	51
excavata, <i>Lamarck</i>	VIII.	25	sepiculata, <i>id</i>	XIV.	50
ficiformis, <i>Menke</i>	VI.	17	Sieboldii, <i>id</i>	XI.	32
funebri, <i>Reeve</i>	XII.	38	speciosa, <i>id</i>	XIV.	47
gemma, <i>Reeve</i>	XVII.	67	splendens, <i>id</i>	III.	9
gibba, <i>Philippi</i>	XIII.	42	squamata, <i>id</i>	XII.	35
gigantea, <i>Chemnitz</i>	VI.	19	squamosa, <i>Gray</i>	VII.	20
glaber, <i>Schubert</i>	VII.	23	Stomatiaeformis, <i>Reeve</i>	XVII.	73
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incisa, <i>Reeve</i>	XV.	57	Tayloriana, <i>Reeve</i>	XIII.	43
iris, <i>Gmelin</i>	XII.	37	tricastalis, <i>Lamarck</i>	II.	5
Jacnensis, <i>Reeve</i>	XVII.	72	tuberculata, <i>Linnæus</i>	XI.	34
Janus, <i>id</i>	XV.	55	tubifera, <i>Lamarck</i>	VI.	19
Japonica, <i>id</i>	V.	13	varia, <i>Linnæus</i>	II.	4
Kamtschatkana, <i>Jonas</i>	III.	8	virginæa, <i>Chemnitz</i>	XII.	36
lamellosa, <i>Lamarck</i>	V.	14	viridis, <i>Reeve</i>	XIII.	40
lauta, <i>Reeve</i>	XVII.	68	Zealandica, <i>id</i>	XVI.	64
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marmorata, <i>Gray</i>	XIII.	44			

MONOGRAPH

OF THE GENUS

M A N G E L I A.

“ I named them as they passed, and understood
Their nature, with such knowledge God endued
My sudden apprehension : but in these
I found not what methought I wanted still,”—*Milton*.



1



2a



2b



4a



4b



5



6a



6b



7

MANGELIA.

PLATE I.

(Figures magnified to two and a half times their natural size.)

Genus MANGELIA, Leach.

Testa Marginellaformis aut fusiformis, plerumque longitudinaliter costata, spirā nunc brevi, nunc acuminatoturritā; columellā labroque intus subtilissimè rugosodenticulatis, labro incrassato, supernè leviter sinuato; canali brevissimo, plus minusve truncato.

Shell Marginella-shaped or fusiform, mostly longitudinally ribbed, spire sometimes short, sometimes acuminate-turreted; lip and columella very finely rugosely denticulated, lip thickened, slightly sinuated at the upper part; canal very short, more or less truncated.

M. Deshayes passes a severe and somewhat merited reprimand upon M. Kiener, for having, in genus *Cancellaria* of his 'Iconographie', which professes to illustrate the shells contained in the Lamarckian collection, omitted mention of the *C. thiarella* of that illustrious author, notwithstanding the authority "mon cabinet" attached to that species in the 'Animaux sans vertèbres'.* It would certainly have been desirable if M. Kiener had published his reasons for this omission, for they were probably founded on the discovery that the shell in question is not only no *Cancellaria* at all, but that it is not referable to any genus hitherto established. Mr. Sowerby had already intimated that this shell belongs to another genus; and M. Deshayes erroneously imagines, from Martini's figure, that it may be the young of *Strombus plicatus*.

This "*Fusus ad formam citharæ compositus*" of Martini, *Cancellaria citharella* of Lamarck, has been collected in various states by Mr. Cuming, at the Philippine Islands, together with upwards of fifty other closely allied species, the whole of which are new and display a very striking association of character. In addition to these I have a new one from Australia, one from Sicily, some from the West Indies collected by the Rev. Lansdowne Guilding, and five collected by Capt. Belcher during the surveying expedition of the 'Sulphur', described and figured by Mr. Hinds in the Zoology of that Voyage; all of which I now propose to assemble under the head of *Mangelia*, a genus proposed some years since in manuscript, by the late Dr. Leach of the British Museum, of which I find no published record.

* Il y a une autre coquille, la *Cancellaria citharella* de Lamarck, et dont M. Kiener ne parle pas dans sa *Monographie*. Une telle lacune est fâcheuse dans un ouvrage aussi spécialement consacré à l'illustration de la partie conchyliologique des animaux sans vertèbres. M. Sowerby suppose que cette coquille appartient à un autre genre, et si l'on s'en rapporte à la figure citée de Martini, elle ne serait en effet qu'un jeune *Strombe*. Il appartenait donc à M. Kiener d'éclairer la science à ce sujet."

And again, "M. Kiener nous laisse dans l'ignorance la plus complète à l'égard de cette espèce de Lamarck. Nous avons toujours cru que l'un des buts que se proposait l'auteur du *Species* des coquilles, était de donner des renseignements positifs sur les espèces de Lamarck, mises à sa disposition. En s'abstenant, M. Kiener ote gratuitement à son ouvrage ce qui lui aurait donné le plus d'intérêt, non-seulement aux yeux des simples amateurs, qui tous consultent les travaux de Lamarck, mais aussi à ceux des personnes qui font de la science d'une manière sérieuse et qui recherchent avec avidité tout ce qui peut les éclairer sur les espèces de Lamarck. Cette *Cancellaria citharella*, d'après la figure de Martini, nous semble une jeune *Strombus plicatus* de Lamarck."—DESHAYES, *Animaux sans vertèbres*, vol. ix. p. 401 and 407.

May, 1846.

The *Mangelia* are nearest allied to those aberrant species of *Pleurotoma* in which the predominant character of that genus, the fissure in the upper extremity of the lip, becomes modified into a somewhat obscure sinus. Their general aspect is that of a more or less fusiform *Margi-nella*, without plaits or polished exterior; distinguished, on the other hand, by a row of faint wrinkle-like denticulations on the inner surface of the lip and columella, and a gutter-like sinus in the lip at its junction with the body-whorl, in a manner similar to that of the *Pleurotomæ* above referred to.

It is rarely an author has the pleasure of introducing a whole genus of seventy new species, but such is the opportunity which the indefatigable exertions of Mr. Cuming have afforded me, with the exception of the one included by Lamarck with the *Cancellariæ*, and the five published by Mr. Hinds in the 'Zoology of the Sulphur'. They were found by that eminent traveller under various circumstances, some on the reefs, some in concealed situations under stones, and some at depths varying from three to twenty five fathoms.

Species 1. (Mus. Cuming.)

MANGELIA SICULA. *Mang. testā subfusiformi, spirā acuminatā, anfractibus rotundatis, gibbosiusculis, concentricè costatis, lævibus; aperturā brevi, ovatā, sinu subconspicuo; intus extusque castaneo-fuscā, labro flavicante, fusco-lineato.*

THE SICILIAN MANGELIA. Shell somewhat fusiform, spire acuminate, whorls rounded, rather gibbous, concentrically ribbed, smooth, aperture short, ovate, sinus rather conspicuous; dark chesnut-brown within and without, lip yellowish, crossed with fine brown lines

REEVE, Pro. Zool. Soc., 1846.

Hab. Sicily.

I place this species at the commencement of the series as indicating the nearest approach to *Pleurotoma*; oscillating in character between that of the two genera, it might be referred with equal propriety to either.

Species 2. (Mus. Cuming.)

MANGELIA VEXILLUM. *Mang. testā oblongo-ovatā, anfractibus supernè depressis, nodosis, costis e nodis descendibus, superficie totā decussatim striatā, quasi subtilissimè decussatā; aurantio-luteā, fasciis albicantibus angustis undique cingulatā.*

THE FLAG MANGELIA. Shell oblong-ovate, whorls depressed round the upper part, noded, with ribs descending from the nodules, entire surface of the shell decussately striated, as if very finely granulated; orange-yellow, encircled throughout with narrow whitish bands.

REEVE, Pro. Zool. Soc., 1846.

Hab. Ilo Ilo, Isle of Panay, Philippines (found under stones); Cuming.

A prettily marked species of a bright orange-yellow colour, banded with white like a miniature Orange-flag Volute; the minute decussated sculpture of the surface is also characteristic.

Species 3. (Mus. Cuming.)

MANGELIA LYRA. *Mang. testā trigono-fusiformi, anfractibus supernè angulatis, longitudinaliter costatis, costis subobliquis, ad angulum incrassatis; castaneo-fuscā, lineis albicantibus decussatis, labro albicante.*

THE LYRE MANGELIA. Shell triangularly fusiform, whorls angulated at the upper part, longitudinally ribbed, ribs rather oblique, thickened at the angle; chesnut-brown, crossed with whitish lines, lip whitish.

Hab. Island of Ticao, Philippines (found on the sands); Cuming.

The white lines which encircle this dark chesnut-brown shell are most conspicuous on the ribs.

Species 4. (Mus. Cuming.)

MANGELIA ANTILLARUM. *Mang. testā subpyriformi-ovatā, lævigatā, longitudinaliter concentricè costatā, costis fortibus, subobtusis, distantibus; cinereo-carneā, costis fasciā rubidā tinctis, labro albicante, rubido fasciatim tincto.*

THE WEST INDIA MANGELIA. Shell somewhat pyriformly ovate, smooth, longitudinally concentrically ribbed, ribs strong, rather obtuse, distant; ashy flesh-colour, ribs stained with a reddish band, lip whitish, stained with reddish bands.

REEVE, Pro. Zool. Soc., 1846.

Hab. West Indies.

This is a fine species, and one highly typical of the genus.

Species 5. (Mus. Cuming.)

MANGELIA CITHARELLA. *Mang. testā fusiformi-ovatā,*

anfractibus supernè angulato-depressis, longitudinaliter costatis, costis e suturis descendibus, ad angulum nodosis, lævibus, interstitiis subtilissimè elevato-striatis, albidā, costis luteo-rufo lineatā et fasciatā.

THE LITTLE HARP MANGELIA. Shell fusiformly ovate, whorls angular, depressed at the upper part, longitudinally ribbed, ribs descending from the sutures, no-dose on the angle, smooth, interstices very finely elevatedly striated; whitish, ribs lineated and banded with yellowish-red.

Cancellaria citharella, Lamarck.

Icon. Martini, Conch. Cab. vol. ix. pl. 142. f. 1330.

Hab. Island of Siquijor, (found on the sands); Cuming.

Having already spoken of this species in my introductory observations, at the commencement of the genus, it only remains to notice that it was figured by Martini, in 1780 under the head of "*Fusi ad formam citharæ compositi*", and referred by Lamarck to the genus *Cancellaria* under an impression that the faint wrinkle-like denticulations of the columella, which are only developed in the mature shell, are indetical with the plaits which wind round the columella of the *Cancellaria* throughout its entire growth. To make his shell accord with the generic character of *Cancellaria* Lamarck described the columella as being "multiplicata, plicis tenuissimis;" it will be found however, on examination, that they are not plaits at all, but one of several characteristic peculiarities of growth and sculpture which are more or less variably developed throughout the whole of the species here associated under the title of *Mangelia*.

Species 6. (Fig. *a* and *b* Mus. Cuming.)

MANGELIA MARGINELLOIDES. *Mang. testā pyriformi-ovatā, spirā brevi, acutā; anfractibus supernè angulatis, longitudinaliter multicostatis, costis tenuibus, crebris, suturis descendibus; lacteo-carulæ aut cinereo-fuscā, lineis rubidis cingulatā, anfractus ultimi parte supra angulum maculā grandī nigricante conspicuè tinctā.*

THE MARGINELLA-LIKE MANGELIA. Shell pyriformly ovate, spire short, acute; whorls angulated at the upper part, longitudinally many-ribbed, ribs thin, close-set, descending from the sutures; milky blueish colour, or ashy brown, encircled with ruddy lines, portion of the last whorl above the angle conspicuously stained with a blackish blotch.

REEVE, Pro. Zool. Soc. 1846.

Hab. Island of Burias, Philippines (found in sandy mud at the depth of seven fathoms); Cuming.

This is an extremely interesting species having the typical form of a *Marginella*, and almost as highly polished in front from the abundant secretion of enamel which paves the vicinity of the aperture.

For species 7. see Plate II.



8



9b



9



10



11a



12



11b



12a



13



13b

MANGELIA.

PLATE II.

(Specimens magnified to two and a half times their natural size.)

Species 7. (Mus. Cuming.)

MANGELIA FUNICULATA. *Marg. testā trigono-fusiformi, subelongatā, anfractibus supernè depressis, longitudinaliter tenuicostatis, lævibus; cinereo-fuscā, costis labroque albicantibus.*

THE CORDED MANGELIA. Shell triangularly fusiform, rather elongated, whorls depressed at the upper part, longitudinally, finely ribbed, smooth; ash brown, ribs and outer lip whitish.

REEVE, Pro. Zool. Soc., 1846.

Hab. Islands of Ticao and Masbate, Philippines (found on the sands); Cuming.

The fine smooth white ribs of this species, on a dark ground, give the shell the appearance of being strung with longitudinal cords.

(Species 8. (Mus. Cuming.)

MANGELIA CAVERNOSA. *Mang. testā oblongo-ovatā, spirā angulato-turritā; anfractibus supernè angulatis, intra costis cavernosis, costis fortibus, obtusis, e suturis descendentibus; albā, aurantio-fusco hic illic sparsim maculatā*

THE CAVERNOUS MANGELIA. Shell oblong-ovate, spire angularly turreted; whorls angulated at the upper part, cavernous between the ribs, ribs strong, obtuse, descending from the sutures; white, sparingly spotted here and there with orange-brown.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Ticao, Philippines (found on the sands); Cuming.

The orange-brown spotting is mostly on the cavernous portion of the whorls above the angle.

Species 9. (Mus. Cuming.)

MANGELIA CYLINDRICA. *Mang. testā cylindraceo-fusiformi, apice acutā, longitudinaliter subtiliter costatā, transversim levato-striatā; pellucido-albā, fuscescente tinctā, aurantio-fusco infra suturas maculatā.*

THE CYLINDRICAL MANGELIA. Shell cylindrically fusiform, sharp at the apex, longitudinally finely ribbed, transversely elevately striated; transparent white, stained with pale brown, spotted beneath the sutures with orange-brown.

REEVE, Pro. Zool. Soc., 1846.

Hab. Cagayan, Island of Mindanao, Philippines (found in sandy mud at the depth of twenty-five fathoms); Cuming.

The orange-brown spots, as in the former species, are arranged round the upper portion of the whorls beneath the sutures.

Species 10. (Mus. Cuming.)

MANGELIA CAPILLACEA. *Mang. testā ovato-fusiformi, spiræ suturis profundis; anfractibus supernè depressis, transversim subtilissimè et creberrimè elevato-striatis, longitudinaliter costatis, costis angustis, suberectis, supernè leviter mucronatis; fuscescente, lineis subtilibus fuscescentibus zonatā.*

THE HAIR-GIRT MANGELIA. Shell ovately fusiform, sutures of the spire deep; whorls depressed at the upper part, transversely very finely and closely elevately striated, longitudinally ribbed, ribs narrow, somewhat erect, a little pointed at the top; light brown, zoned with fine brown lines.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Burias, Philippines, (found among coarse sand at the depth of seven fathoms); Cuming.

Encircled with fine brown lines which on the summit of the raised striæ have the appearance of hair.

Species 11. (Mus. Cuming.)

MANGELIA GRACILIS. *Mang. testā gracili-fusiformi, transversim subtilissimè striatā, longitudinaliter costatā, costis angustis; albā, castaneo-fusco indistinctè zonatā et maculatā.*

THE SLENDER MANGELIA. Shell slenderly fusiform, transversely very finely striated, longitudinally ribbed, ribs narrow; white, indistinctly zoned and blotched with chesnut-brown.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Ticao, Philippines (found under stones at low water); Cuming.

The peculiarities of this shell are very briefly defined, but they are not, on that account, less characteristic of a very distinct and elegantly formed species. The brown

May, 1846.

zoned painting is most conspicuous on the back of the last whorl, where it forms a rude blotch.

Species 12. (Mus. Cuming.)

MANGELIA LAMELLATA. *Mang. testā fusiformi-ovatā, spiræ suturis profundis, subcavernosis, anfractibus transversim elevato-striatis, striis fortibus, subdistantibus, longitudinaliter costatis, costis angustis, erectis, lamellaformibus, supernè leviter mucronatis; albidā, fusco pallidissimè zonatā.*

THE LAMELLATED MANGELIA. Shell fusiformly ovate, sutures of the spire deep, a little cavernous; whorls transversely elevately striated, striæ strong, rather distant, longitudinally ribbed, ribs narrow, erect, lamella-like, slightly pointed at the top; white, zoned with very pale brown.

REEVE, Pro. Zool. Soc., 1846.

Hab. Isle of Burias, Philippines (found among coarse sand at the depth of seven fathoms); Cuming.

Chiefly distinguished by the narrow elevated lamella-like character of the ribs.

Fig. 13. (Mus. Cuming.)

MANGELIA GRACILIS. *Var. β.* I had figured this shell

as a species distinct from the *M. gracilis*, but upon further examination, am inclined to think that it is merely a variety, with the transverse striæ more strongly developed, and the longitudinal ribs less so.

For Species 13 see Plate V.

Species 14. (Mus. Cuming.)

MANGELIA VITTATA. *Mang. testā oblongo-ovatā, subconicā, spirā brevi, obtusā; anfractibus longitudinaliter costatis, costarum intersitiis striis fortibus clathratis; albidā, olivaceo-fusco latifasciatā, costarum parte olivaceo-fusca albipunctatā,*

THE RIBAND-BOUND MANGELIA. Shell oblong-ovate, somewhat conical, spire short, obtuse; whorls longitudinally ribbed, interstices between the ribs latticed with strong striæ; whitish, encircled with broad olive-brown bands, the coloured portion of the ribs being dotted with white.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Ticao, Philippines (found on the sands); Cuming.

An interesting species so distinct from any other I have met with, that it may be recognised without difficulty.



15



16b



16a



17



18b



18a



19



20b



20a



21

MANGELIA.

PLATE III.

(Figures magnified to two and a half times their natural length.)

Species 15. (Mus. Cuming.)

MANGELIA ZONATA. *Mang. testā abbreviato-fusiformi, spirā breviusculā, turrītā, suturis profundis; anfractibus longitudinaliter costatis, costis e suturis descendentibus; lævigatā; albā, zonā conspicuā aurantio-fuscā cingulatā.*

THE ZONED MANGELIA. Shell shortly fusiform, spire rather short, turreted, sutures deep; whorls longitudinally ribbed, ribs descending from the sutures; smooth; white, encircled with a conspicuous zone of orange brown.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Ticao, Philippines (found on the sands); Cuming.

A delicate white shell, encircled throughout with a dark orange-brown zone.

Species 16. (Mus. Cuming.)

MANGELIA INTERRUPTA. *Mang. testā oblongo-ovatā, spirā brevi, anfractibus supernè nodosis, costis e nodis descendentibus; albā, lineis nigris subtilissimis transversis interruptis, creberrimè dispositis, inter costas ornatā.*

THE INTERRUPTED MANGELIA. Shell oblong-ovate, spire short, whorls nodose round the upper part, with ribs descending from the nodules; white, ornamented between the ribs with very fine interrupted transverse black lines, ranging very close to one another.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Ticao, Philippines (found on the sands); Cuming.

A very significant character is here displayed, in the interstices between the ribs being painted with short black hair lines.

Species 17. (Mus. Cuming.)

MANGELIA RETICULATA. *Mang. fusiformi-ovatā, spirā breviusculā, apice acuminatā; anfractibus supernè perpendiculariter compressis, deinde tumidiusculis et longitudinaliter costatis, costarum interstitiis exiliter oblique reticulatis; albidā, cinereo pallidè zonatā, costis exiliter fusco-punctatis.*

THE RETICULATED MANGELIA. Shell fusiformly ovate, spire rather short, acuminate at the apex; whorls perpendicularly compressed round the upper part, then a little swollen and longitudinally ribbed, interstices between the ribs faintly obliquely reticulated; whitish, zoned with pale ash, ribs faintly dotted with brown.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Ticao, Philippines (found on the reefs); Cuming.

This species is distinguished by a peculiar perpendicular depression of the upper portion of the whorls, together with the faint reticulated sculpture of the interstices between the ribs. The colouring is also characteristic.

Species 18. (Mus. Cuming.)

MANGELIA FULCHELLA. *Mang. testa fusiformi-ovatā, subcylindraceutā, spirā breviusculā, apice acuminatā; anfractibus supernè rotundatis, longitudinaliter multicos-tatis, costis tenuibus, gracilibus, concentricè dispositis, anfractuum superficie totā exilissimè reticulatā; luteo-albicante, maculis quadratis parvis rufis costarum interstitiis fasciatim cingulatā.*

THE PRETTY MANGELIA. Shell fusiformly ovate, somewhat cylindrical, spire rather short, acuminate at the apex; whorls rounded at the upper part, longitudinally many-ribbed, ribs thin, slender, arranged concentrically; entire surface of the whorls very faintly reticulated; yellowish-white, encircled throughout in the interstices between the ribs, with bands of small square red spots.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Ticao, Philippines (found on the sands); Cuming.

An extremely pretty species, strikingly tessellated throughout with bright square red spots.

Species 19. (Mus. Cuming.)

MANGELIA FUSIFORMIS. *Mang. testā fusiformi, anfractibus supernè subangulatis, ad angulum nodosis, costis tenuibus subsuperficiariis e nodis descendentibus, trans-*

versim creberrimè, striatis; luleo-albicante, punctis perpaucis aurantio-fuscis tinctâ.

THE FUSIFORM MANGELIA. Shell fusiform, whorls slightly angulated round the upper part, nodose at the angle, with thin rather superficial ribs descending from the nodules, transversely very closely striated; yellowish white, stained with orange brown.

REEVE, Pro. Zool. Soc., 1846.

Hab. Isle of Corrigidor, Philippines (found among coarse sand at the depth of ten fathoms); Cuming.

The orange-brown spots which characterize this species, are few in number, and very faintly indicated.

Species 20. (Mus. Cuming.)

MANGELIA LYRICA. *Mang. testâ fusiformi, utrinque acuminatâ, anfractibus longitudinaliter concentricè costatis, transversim elevato-striatis; fuscescente, aurantio-fusco pallidè et indistinctè fasciatâ.*

THE LYRICAL MANGELIA. Shell fusiform, acuminate at both ends, whorls longitudinally concentrically ribbed, transversely elevately striated; light brown, palely and indistinctly banded with orange-brown.

REEVE, Pro. Zool. Soc., 1846.

Hab. Isle of Burias, Philippine Islands (found among coarse sand at the depth of seven fathoms); Cuming.

Lightly ribbed and more acuminate at the base than any of the former species of this plate.

Species 21. (Mus. Cuming.)

MANGELIA GIBBOSA. *Mang. testâ ovato-conicâ, spirâ brevissimâ; anfractibus supernè gibbosis et nodulosis, longitudinaliter costatis, lævigatis; cinereo-albicante, lineis aurantio-fuscis exilibus cingulatâ, dorso supernè nigricante tincto.*

THE HUNCH-BACKED MANGELIA. Shell ovately conical, spire very short; whorls gibbous and nodulous round the upper part, longitudinally ribbed, smooth; ashy white, encircled with faint orange-brown lines, back stained with pale black at the upper part.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Ticao, Philippines (found on the reefs); Cuming.

A short conical shell characterized by very faint brown hair lines, and a dark neutral tint blotch on the back at the summit of the last whorl.



22a



28



22b



23



24a



24b



25



26a



26b



27

MANGELIA.

PLATE IV.

(Figures magnified to two and a half times their natural length.)

Species 22. (Mus. Cuming.)

MANGELIA MACULATA. *Mang. testā subfusiformi, basi truncatā, longitudinaliter costatā, costis, tenuibus subdistantibus, concentricè dispositis; sinu latiusculo; albā, maculis subquadratis aurantio-fuscis inter costas.*

THE SPOTTED MANGELIA. Shell somewhat fusiform, truncated at the base, longitudinally ribbed, ribs thin, rather distant, concentrically arranged; sinus rather broad; white, with somewhat square orange-brown spots between the ribs.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Ticao, Philippines (found under stones at low water); Cuming.

The orange-brown spots which constitute one of the distinguishing features of this species are very characteristic on the last whorl, but on the upper whorls only the upper portion of them remain visible.

Species 23. (Mus. Cuming.)

MANGELIA TURRICULA. *Mang. testā fusiformi-turritā, suturis profundis; anfractibus plano-depressis, longitudinaliter concentricè costatis; albicante, lineis subtilissimis aurantio-fuscis obsolete cingulatā.*

THE LITTLE TOWER MANGELIA. Shell fusiformly turritated, sutures deep; whorls flatly depressed, longitudinally concentrically ribbed; whitish, obsoletely encircled with very fine orange-brown lines.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Ticao, Philippines (found on the sand); Cuming.

The orange-brown lines above described are too faintly indicated to be represented in the figure, indeed they are but just discernible with the lens.

Species 24. (Mus. Cuming.)

MANGELIA COLUMBELLOIDES. *Mang. testā ovatā, spirā brevi, acutā; anfractibus supernè leviter rotundatis, transversim elevato-striatis, longitudinaliter tenuicostatis, labro medio tumido, intus fortiter denticulato; niveā, costis eximie aurantio-fusco punctatis.*

THE COLUMBELLA-LIKE MANGELIA. Shell ovate, spire short, acute; whorls slightly rounded at the upper part, transversely elevately striated, longitudinally finely ribbed, lip swollen in the middle, strongly denticulated within; snowy white, ribs delicately dotted with orange-brown.

REEVE, Pro. Zool. Soc., 1846.

Hab. Baclayon, Island of Bohol, Philippines (found on mud banks); Cuming.

An extremely interesting species distinguished by its Columbella-like structure, and faint dotted colouring of the ribs.

Species 25. (Mus. Cuming.)

MANGELIA CONOHELICOIDES. *Mang. testā ovato-conicā, spirā brevissimā, acutā; anfractibus transversim elevato-striatis, longitudinaliter multiliratā, liris tenuibus, ante suturas evanidis; luteo-albicante, dorso maculā grandī aurantio-fuscā interdum tincto.*

THE CONOHELIX-LIKE MANGELIA. Shell ovately conical, spire very short, acute; whorls transversely elevately striated, longitudinally many-ridged, ridges thin, fading before the sutures; yellowish-white, back sometimes stained with a large orange-brown blotch.

REEVE, Pro. Zool. Soc., 1846.

Hab. Daleguete, Isle of Zebu, Philippines (found under stones); Cuming.

Distinguished by that peculiar conical form, which is typified in the Mitres, separated by Mr. Swainson under the title of *Conohelix*.

Species 26. (Mus. Cuming.)

MANGELIA TENEBROSA. *Mang. testā subfusiformi, spirā acuminato-turritā; anfractibus supernè plano-depressis, suturis profundis, transversim striatis, longitudinaliter costatis, costis distantibus; intus extusque castaneo-fuscā.*

THE DARK MANGELIA. Shell somewhat fusiform, spire acuminate-turritated; whorls flatly depressed at the top, sutures deep; transversely striated, longitudinally ribbed, ribs distant; dark chesnut brown within and without.

May, 1846.

REEVE, Pro. Zool. Soc., 1846.

Hab. Cagayan, Island of Mindanao (found in sandy mud at the depth of twenty-five fathoms); Cuming.

A dark brown sharply turreted deep-water species.

Species 27. (Mus. Cuming.)

MANGELIA NOVÆ HOLLANDIÆ. *Mang. testā ovatā, infernè attenuatā, subconicā, spirā brevī; anfractibus supernè rotundatis, longitudinaliter obliquè costatis; livido-cinereā, apice basique nigricantibus, labro albido, aperturæ fauce fuscā.*

THE NEW HOLLAND MANGELIA. Shell ovate, attenuated at the lower part, somewhat conical, spire short; whorls rounded at the upper part, longitudinally obliquely ribbed; livid ash-colour, base and apex blackish, lip whitish, interior of the aperture brown.

REEVE, Pro. Zool. Soc., 1846.

Hab. Swan River.

A very characteristic species exhibiting a curious variety of dingy colouring.

Species 28. (Mus. Cuming.)

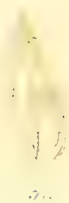
MANGELIA LIVIDA. *Mang. testā subfusiformi-ovatā, apice acuminatā; anfractibus longitudinaliter concentricè costatis, costis tenuibus; livido-carneā.*

THE LIVID MANGELIA. Shell somewhat fusiformly ovate, acuminate at the apex, whorls longitudinally concentrically ribbed, ribs thin; livid flesh-colour.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Ticao, Philippines (found on the reefs); Cuming.

A livid flesh-coloured shell, simply longitudinally ribbed.



MANGELIA.

PLATE V.

(Specimens magnified to two and a half times their natural length.)

Species 13. (Mus. Cuming.)

MANGELIA PYRAMIDALIS. *Mang. testā pyramidalī, turrītā, longitudinaliter costatā, costarum interstitiis striatis; aperturā parvā, brevī; albā.*

THE PYRAMIDAL MANGELIA. Shell pyramidal, turreted, longitudinally ribbed, interstices between the ribs striated; aperture small, short; white.

Hab. Island of Mindoro, Philippines; Cuming.

Of a somewhat hexagonal form, arising from the ribs following one under the other.

Species 29. (Mus. Cuming.)

MANGELIA DYSONI. *Mang. testā ovatā, spirā breviusculā, anfractibus supernè rotundatis, longitudinaliter creberrimè tenuicostatis, striis transversis decussatis; albidā, aurantio-fusco pallidè bifasciatā.*

DYSON'S MANGELIA. Shell ovate, spire rather short, whorls rounded at the upper part, longitudinally very closely finely ribbed, decussated with transverse striæ; whitish, encircled with two faint bands of orange-brown.

Hab. Honduras (found on the sands); Dyson.

The ribs being decussated with striæ have a slightly granular appearance.

Species 30. (Mus. Cuming.)

MANGELIA ABYSSICOLA. *Mang. testā oblongo-ovatā, utrinque conspicuè attenuatā, longitudinaliter costatā, lineis elevatis cingulatā; albidā, fusco zonatā.*

THE DEEP-DWELLING MANGELIA. Shell oblong-ovate, conspicuously attenuated at both ends, longitudinally ribbed, encircled with raised lines; whitish, zoned with brown.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Mindanao, Philippines (found in sandy mud at the depth of twenty-five fathoms); Cuming.

Peculiarly attenuated at both ends, and corded throughout with raised striæ.

Species 31. (Mus. Cuming.)

MANGELIA BICOLOR. *Mang. testā oblongā, concentricè*

costatā, costarum interstitiis subtilissimè striatis; supra albidā, infra plumbeā.

THE TWO-COLOURED MANGELIA. Shell oblong, concentrically ribbed, interstices between the ribs very finely striated; white above, lead colour below.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Ticao, Philippines; Cuming.

Distinguished in some measure by its conspicuous contrast of colour.

Species 32. (Mus. Cuming.)

MANGELIA FUNEBRIS. *Mang. testā oblongā, concentricè costatā, costarum interstitiis lævibus; albidā, fasciā plumbeā latā cingulatā.*

THE MOURNING MANGELIA. Shell oblong, concentrically ribbed, interstices between the ribs smooth; whitish, encircled with a broad lead-coloured band.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Ticao (found under stones at low water); Cuming.

The spire is rather more elevated than in the former species, and the shell has altogether a different aspect.

Species 33. (Mus. Cuming.)

MANGELIA STROMBOIDES. *Mang. testā fusiformi-ovatā, spirā subturritā; anfractibus supernè angulatis, longitudinaliter costatis, costis ad angulum nodosis, interstitiis subtilissimè striatis; albidā.*

THE STROMBUS-LIKE MANGELIA. Shell fusiformly ovate, spire somewhat turreted; whorls angulated round the upper part, longitudinally ribbed, ribs nodose at the angle, interstices very finely striated; whitish.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Bohol, Philippines.

Mr. Cuming possesses a specimen of this shell from the Red Sea, collected by Dr. Rüppell.

Species 34. (Mus. Cuming.)

MANGELIA PALLIDA. *Mang. testā ovatā, concentricè costatā, costis subotusis; albā.*

THE PALE MANGELIA. Shell ovate, concentrically ribbed, ribs rather obtuse; white.

June, 1846.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Ticao, Philippines; Cuming.

A small white species with stout concentric ribs.

Species 35. (Mus. Cuming.)

MANGELIA TÆNIATA. *Mang. testa oblongo-fusiformi, lævis-
simâ, longitudinaliter plicato-costatâ; albidâ aut lutes-
cente, lineis fuscis conspicuè cingulatâ.*

THE FILLETED MANGELIA. Shell oblong-fusiform, very
smooth, longitudinally plicately ribbed; whitish or
yellowish, conspicuously encircled with brown lines.

Pleurotoma tæniata, Deshayes, Expèd Morée p. 178.

pl. xix. f. 37–39.

Pleurotoma eburneum, Bivon.

Hab. Mediterranean.

A smooth yellowish species encircled with fine brown
lines.

Species 36. (Mus. Cuming.)

MANGELIA CRASSILABRUM. *Mang. testâ oblongâ, spirâ
brevis, subturritâ, anfractibus supernè rotundatis, longi-
tudinaliter crebricostatis; labro valdè incrassato;
plumbeo-fasciatâ, obscure subtilissimè albilineatâ.*

THE THICK-LIPPED MANGELIA. Shell oblong, spire
short, a little turreted, whorls rounded at the upper
part, longitudinally closely ribbed; lip more than
usually thickened; lead colour or banded with lead
colour, crossed with numerous obscure fine white
lines.

Hab. Islands of Ticao and Bohol, Philippines; Cuming.

Distinguished by its swollen lip.



37



38



39



40



41



42



43



44



45



46



47



48

MANGELIA.

PLATE VI.

(Specimens, except Figs. 37 and 39, magnified to two and a half times their natural length.)

Species 37. (Mus. Belcher.)

MANGELIA ORYZA. *Mang. testā attenuatā, acuminatā, lævigatā, nitidā, hexagonè plico-costulatā; anfractibus septenis; albidā.*

THE RICE-GRAIN MANGELIA. Shell attenuated, acuminate, smooth, shining, hexagonally plicately ribbed; whorls seven in number; whitish.

HINDS, Moll. Voy. Sulphur, p. 20. pl. 9. f. 4.

Hab. North coast of New Guinea (from twenty-two fathoms, mud); Hinds.

The figure of this species is of the natural size.

Species 38. (Mus. Cuming.)

MANGELIA PESSULATA. *Mang. testā cylindraceo-oblongā, spirā breviusculā, longitudinaliter eximie suboblique costatā, costarum interstitiis subtilissimè striatis; nivedā.*

THE BARRED MANGELIA. Shell rather cylindrically oblong, spire rather short; longitudinally delicately rather obliquely ribbed, interstices between the ribs very finely striated; snowy white.

REEVE, Pro. Zool. Soc., 1846.

Hab. Philippine Islands; Cuming.

The sculpture of this shell is of a most delicate character.

Species 39. (Mus. Belcher.)

MANGELIA CINNAMOMEA. *Mang. testā attenuatā, nitidā, cinnamomeā, albifasciatā; anfractibus senis, plico-costulatis, transversim lævissimè striatis.*

THE CINNAMON MANGELIA. Shell attenuated, smooth, cinnamon-coloured, white-banded; whorls six in number, plicately ribbed, transversely obsoletely striated.

HINDS, Moll. Voy. Sulphur, p. 25. pl. 9. f. 1.

Hab. North coast of New Guinea, Straits of Macassar, and Malacca (from five to twenty-two fathoms, mud); Hinds.

Of the natural size, from Mr. Hinds' figure.

(Species 40. Mus. Forbes.)

MANGELIA RIGIDA. *Mang. testā ovatā, longitudinaliter fortiter tuberculato-costatā, transversim subtilissimè striatā; fuscescente.*

THE RIGID MANGELIA. Shell ovate, longitudinally strongly tubercularly ribbed, transversely very finely striated; light brown.

REEVE, Pro. Zool. Soc., 1846.

Hab. Ægean Sea; Forbes.

I cannot identify this with any of the Mediterranean species of *Pleurotoma* hitherto described.

Species 41. (Mus. Cuming.)

MANGELIA ELEGANS. *Mang. testā oblongā, spirā breviusculā, acuminatā, anfractibus supernè angulatis, longitudinaliter costatis, costis angustis, ad angulum mucronatis, costarum interstitiis pulcherrimè elevato-striatis; lutescente-albā, exilissimè fusco-zonatā.*

THE ELEGANT MANGELIA. Shell oblong, spire rather short, acuminate, whorls angulated at the upper part, longitudinally ribbed, ribs narrow, pointed at the angle, interstices between the ribs very beautifully elevately striated; yellowish white, very faintly zoned with brown.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Mindoro, Philippines; Cuming.

An interesting species most delicately sculptured.

Species 42. (Mus. Cuming.)

MANGELIA LINEATA. *Mang. testā ovatā, spirā acuminatā; concentricè obtuso-costatā, lævigatā; carneo-fuscescente, lineis saturationibus undique cingulatā.*

THE LINEATED MANGELIA. Shell ovate, spire acuminate; concentrically obtusely ribbed, smooth; fleshy brown, encircled throughout with lines of a darker tint.

REEVE, Pro. Zool. Soc., 1846.

Hab. —?

The transverse lines which characterize this species are somewhat faintly indicated.

Species 43. (Mus. Cuming.)

MANGELIA PLANILABRUM. *Mang. testā fusiformi, utrinque acuminatā, lævissimā, anfractibus supernè depressis, longitudinaliter costatis; labro planulato, supra subangulato; cinereo-purpurascete, albi-zonatā.*

THE FLAT-LIPPED MANGELIA. Shell fusiform, acuminate at both ends, very smooth, whorls depressed round the upper part, longitudinally ribbed; lip flattened, slightly angulated above; ashy purple, zoned with white.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Ticao, Philippines; Cuming.

An extremely pretty and characteristic species.

Species 44. (Mus. Cuming.)

MANGELIA PONDEROSA. *Mang. testā ovatā, spirā breviusculā, acuminatā, anfractibus convexis, liris eximius longitudinalibus striisque transversis eleganter clathratis; labro valdè incrassato; albicante, maculis perpaucis fuscis tinctā.*

THE PONDEROUS MANGELIA. Shell ovate, spire rather short, acuminate, whorls convex, latticed with transverse striæ and delicate longitudinal ridges; lip very much thickened; whitish, stained with a very few brown spots.

Hab. Island of Burias, Philippines (found among coarse sand at the depth of seven fathoms); Cuming.

A fine species with the surface delicately latticed with ridges and raised striæ.

Species 45. (Mus. Cuming.)

MANGELIA GINNANNIA. *Mang. testā pyramidalī-acuminatā, concentricè tuberculato-costatā, lævigatā, aperturā breviusculā; lutescente-carneā.*

THE GINNANNIA MANGELIA. Shell pyramidally acuminate, concentrically tubercularly ribbed, smooth, aperture rather short; yellowish flesh-colour.

Risso, Hist. Nat. Europe mērid. p. 220. pl. 7. 99.

Pleurotoma Ginnannianum, Scacchi.

Hab. Mediterranean.

Sometimes of a dull leaden colour.

Species 46. (Mus. Cuming.)

MANGELIA BERTRANDI. *Mang. testā oblongā, subturritā, lævigatā, nitidā, longitudinaliter costatā; purpureo-fuscā, costis labro basique albidis.*

BERTRAND'S MANGELIA. Shell oblong, somewhat turreted, smooth, shining, longitudinally ribbed; purple-brown, ribs base and lip white.

Pleurotoma Bertrandi, Payrandeau, Cat. Moll. Corse p. 144. pl. 7. f. 12 and 13.

Hab. Mediterranean.

It is scarcely necessary to observe that this species is quite distinct from the *Pleurotoma Vauquelini*, which should also be referred to this genus.

Species 47. (Mus. Cuming.)

MANGELIA HORNBECKII. *Mang. testā ovatā, spirā breviusculā, acutā, suturis profundis, subcavernosis, longitudinaliter costatā, costis prominentibus, transversim subtilissimè striatā, albā.*

HORNBECK'S MANGELIA. Shell ovate, spire rather short, acute, sutures deep, somewhat cavernous, longitudinally ribbed, ribs prominent, transversely very minutely striated; white.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of St. Thomas, West Indies; Dr. Hornbeck.

Distinguished by the prominent character of the ribs, and the depth of the sutures.

Species 48. (Mus. Metcalfe.)

MANGELIA CASTANEA. *Mang. testā oblongā, spirā acuminatā, concentricè tenuicostatā, costarum interstitiis striatis; castaneo-fuscā.*

THE CHESNUT MANGELIA. Shell oblong, spire acuminate; concentrically finely ribbed, interstices between the ribs striated; chesnut-brown.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Burias, Philippines; Cuming.

An ovate subfusiform shell of a bright chesnut colour.



MANGELIA.

PLATE VII.

(Specimens, except Figs. 49 and 51, magnified to twice their natural length.)

Species 49. (Mus. Belcher.)

MANGELIA CELEBENSIS. *Mang. testâ attenuatâ, lævigatâ, pallidâ, fusco latè fasciatâ; anfractibus senis, plicocostulatis; costulis subdistantibus.*

THE PRETTY MANGELIA. Shell attenuated, smooth, pale, broadly banded with brown, whorls six in number, plicately ribbed; ribs rather distant.

HINDS, Moll. Voy. Sulphur, p. 26. pl. 9. f. 5.

Hab. New Guinea.

Represented of the natural size.

Species 50. (Mus. Cuming.)

MANGELIA PUSILLA. *Mang. testâ fusiformi-ovatâ, lævigatâ, longitudinaliter costatâ, costis solidiusculis obtusis; albidâ, castaneo copiosè tinctâ et lineatâ.*

THE SMALL MANGELIA. Shell fusiformly ovate, smooth, longitudinally ribbed, ribs rather solid, obtuse; whitish, copiously stained and lineated with chesnut-brown.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

The ribs are mostly of lighter colour than the ground of the shell.

Species 51. (Mus. Belcher.)

MANGELIA CORONATA. *Mang. testâ attenuatâ, acuminatâ; anfractibus senis plico-costulatis, transversim striatis; costulis supernè subacuminatis.*

THE CORONATED MANGELIA. Shell attenuated, acuminate; whorls six in number, plicately ribbed, transversely striated, ribs somewhat acuminate at the upper part.

HINDS, Moll. Voy. Sulphur, p. 26. pl. 9. f. 1.

Hab. Straits of Macassar; Hinds.

From Mr. Hinds' figure of the natural size.

Species 52. (Mus. Gray.)

MANGELIA FASCIATA. *Mang. testâ ovatâ, utrinque attenuatâ, anfractibus supernè rotundatis, longitudinaliter costatis, striis conspicuis transversim clathratis; albidâ aut lutescente, fasciâ rubidâ angustâ cingulatâ.*

THE BANDED MANGELIA. Shell ovate, attenuated at both ends, whorls rounded above, longitudinally ribbed, latticed with conspicuous transverse striae; whitish or yellowish, encircled with a narrow reddish band.

GRAY, MSS. (Private cabinet.)

Hab. Africa.

Characterized by its short attenuated growth at the base.

Species 53. (Mus. Cuming.)

MANGELIA VITTATA. *Mang. testâ fusiformi-ovatâ, utrinque peculiariter attenuatâ, longitudinaliter eximie costellatâ, transversim subtilissimè funiculatâ; albidâ, fusco aut rubido-fusco lineatâ et fasciatâ.*

THE FILLETED MANGELIA. Shell fusiformly ovate, peculiarly attenuated at both ends, longitudinally delicately ribbed, transversely very finely corded; whitish, lineated and banded with brown or reddish brown.

HINDS, Moll. Voy. Sulphur, p. 26. pl. 9. f. 3.

Hab. Island of Luzon, Philippines (found in sandy mud at the depth of seven fathoms); Cuming.

An elegantly formed species, distinguished by the peculiar delicacy of the ribs and transverse striae.

Species 54. (Mus. Cuming.)

MANGELIA MARMOROSA. *Mang. testâ ovatâ, solidiusculâ, spirâ brevisculâ; longitudinaliter costatâ, costis obesis, striis elevatis, decussatis; sinu amplo, albâ, aurantio-fusco perparce maculatâ.*

THE MARBLE MANGELIA. Shell ovate, rather solid, spire rather short; longitudinally ribbed, ribs stout, crossed with raised striae; white, very sparingly spotted with orange brown.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

A solid white marble-like shell, with one or two scattered orange-brown spots on the back.

Species 55. (Mus. Cuming.)

MANGELIA CASTA. *Mang. testâ ovato-turritâ, longitudinaliter costatâ, costis tenuibus subdistantibus, lævigatâ;*

aperturâ brevi, basi truncatâ; carneo-fuscâ, obscure fasciatâ, costis albicantibus.

THE CHASTE MANGELIA. Shell ovately turreted, longitudinally ribbed, ribs fine, rather distant, smooth, aperture short, base truncated; fleshy brown, obscurely banded, ribs whitish.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

Peculiarly truncated at the base.

Species 56. (Mus. Cuming.)

MANGELIA OBELISCUS. *Mang. testâ subulatâ, hexagonâ, basi truncatâ, striis pulcherrimis elevatis undique creberrimè cingulatâ, longitudinaliter costatâ, costis distantibus, sequentibus; aperturâ minutâ, ovatâ; sordidè albâ, aperturæ fauce lutescente.*

THE OBELISK MANGELIA. Shell subulate, six-sided, truncated at the base, very closely encircled throughout with beautiful raised striæ, longitudinally ribbed, ribs following one under the other; aperture minute, ovate; dull white, interior of the aperture yellowish.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Corrigidor, Philippines (found among coarse sand at the depth of ten fathoms); Cuming.

An interesting species remarkably characterized by its erect obelisk-like growth.

Species 57. (Mus. Metcalfe.)

MANGELIA BALTEATA. *Mang. testâ elongatâ, subfusiformi, longitudinaliter costatâ, costis angustis, distantibus; albâ, zonâ fuscâ conspicuâ cingulatâ.*

THE BELTED MANGELIA. Shell elongated, somewhat fusiform, longitudinally ribbed, ribs narrow, distant; white, encircled with a conspicuous brown zone.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

The brown zone which forms so conspicuous a character in the specimen here figured, is but faintly indicated in others.

Species 58. (Mus. Gray.)

MANGELIA GOODALLII. *Mang. testâ oblongo-ovatâ, spiræ suturis subprofundis; longitudinaliter costatâ, costarum interstitiis striis conspicuis clathratis; albâ, striis pallidè fusciscentibus.*

GOODALL'S MANGELIA. Shell oblong-ovate, sutures of the spire rather deep; longitudinally ribbed, interstices between the ribs latticed with conspicuous striæ; white, striæ pale brown.

GRAY, MSS. (Private cabinet).

Hab. — ?

Named some years since by Mr. Gray in manuscript, after the late venerable Provost of Eton.

Species 59. (Mus. Metcalfe.)

MANGELIA ASTRICATA. *Mang. testâ subfusiformi-ovatâ, spirâ breviusculâ, suturis profundis; longitudinaliter costatâ, costis crebriusculis; albidâ, zonâ fuscâ angustâ cingulatâ.*

THE TIED MANGELIA. Shell somewhat fusiformly ovate, spire rather short, sutures deep; longitudinally ribbed, ribs rather close-set; whitish, encircled with a narrow brown zone.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

The ribs of this species present an unusually numerous aspect on the spire.



60



61



62



63



64



65



66



67



68



69



70



71

MANGELIA.

PLATE VIII.

(Specimens magnified to two and a half times their natural length.)

Species 60. (Mus. Cuming.)

MANGELIA BADIA. *Mang. testâ fusiformi-ovatâ, concentricè plicato-costatâ, transversim fortiter striatâ; castaneo-fuscâ.*

THE BROWN MANGELIA. Shell fusiformly ovate, concentrically plicately ribbed, transversely strongly striated; chesnut-brown.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

Of an uniform dark brown colour.

Species 61. (Mus. Cuming.)

MANGELIA PELLUCIDA. *Mang. testâ ovalâ, utrinque attenuatâ, lævigatâ, pellucidâ, nitidâ, longitudinaliter crebricostatâ; albidâ, basi fuscâ.*

THE TRANSPARENT MANGEMIA. Shell ovate, attenuated at both ends, smooth, transparent shining, longitudinally closely ribbed, whitish, brown at the base.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

A delicate transparent shell, swollen in the middle.

Species 62. (Mus. Cuming.)

MANGELIA ANGULATA. *Mang. testâ fusiformi-ovatâ, anfractibus medio peculiariter angulatis, suturis profundis, longitudinaliter costatis, costis angulos super mucronatis; albidâ, fuscéscente lineatâ.*

THE ANGULATED MANGELIA. Shell fusiformly ovate, whorls peculiarly angulated in the middle, sutures deep, longitudinally ribbed, ribs pointed over the angles; whitish, lineated with pale brown.

REEVE, Pro. Zool. Soc., 1846.

Hab. Bay of Manila (found in sandy mud at the depth of four fathoms); Cuming.

An interesting form, distinguished by the very peculiar angularity of the whorls.

Species 63. (Mus. Metcalfe.)

MANGELIA PURA. *Mang. testâ oblongo-ovatâ, spirâ sub-turritâ, suturis profundis; anfractibus concentricè costatis; albidâ, maculis perpaucis aurantio-fuscis.*

THE PURE MANGELIA. Shell oblong-ovate, spire somewhat turreted, sutures rather deep; whorls concentrically ribbed; whitish, with a very few orange-brown spots.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

There is merely a faint row of dots on the back of the last whorl.

Species 64. (Mus. Cuming.)

MANGELIA SOLIDA. *Mang. testâ cylindraceo-ovatâ, utrinque attenuatâ, solidâ, undique creberrimè granoso-clathratâ; aperturâ longiusculâ; purpuráscente.*

THE SOLID MANGELIA. Shell cylindrically ovate, attenuated at both ends, solid, very closely granosely latticed throughout; aperture rather long; purplish.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Burias, Philippines (among sand at the depth of seven fathoms); Cuming.

A peculiarly solid, finely granulated shell.

Species 65. (Mus. Cuming.)

This shell proves, on a second examination, to be a *Mangelia vittata*.

Species 66. (Mus. Cuming.)

MANGELIA DERILICTA. *Mang. testâ ovalâ, longitudinaliter fortiter concentricè costatâ, transversim subobsoletè striatâ; fuscéscente.*

THE FORSAKEN MANGELIA. Shell ovate, longitudinally strongly concentrically ribbed, transversely rather obsoletely striated; light brown.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

A strong ribbed species of ordinary form.

Species 67. (Mus. Gray.)

MANGELIA CONIFORMIS. *Mang. testâ ovato-conicâ, tenui, subpellucida, spirâ brevissimâ; anfractibus transversim subtilissimè striatis, supernè exiliter plicato-crenatis; albâ.*

THE CONE-SHAPED MANGELIA. Shell ovately conical, thin, rather transparent, spire very short, whorls transversely very finely striated, faintly plicately crenated round the upper part; white.

GRAY, MSS. (Private cabinet).

Hab. — ?

An interesting species, which may readily be distinguished by its conical form.

Species 68. (Mus. Cuming.)

MANGELIA ZEBUENSIS. *Mang. testā ovato-oblongā, spirā acuminatā, basi subattenuatā, concentricè fortiter costatā, transversim creberrimè striatā; fuscescente.*

THE ZEBU MANGELIA. Shell ovately oblong, spire acuminate, a little attenuated at the base, concentrically ribbed, transversely very closely striated; pale brown.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Zebu, Philippines (found in sandy mud at the depth of four fathoms); Cuming.

Of simple structure, but specifically distinct from any of the former.

Species 69. (Mus. Cuming.)

MANGELIA CINCTA. *Mang. testā subfusiformi-ovatā, spirā turritā, suturis subprofundis; anfractibus supernè angulatis, longitudinaliter costatis, costis distantibus; albidā, anfractibus fasciā latā fuscescente supernè cinctis.*

THE GIRDLED MANGELIA. Shell somewhat fusiformly ovate, spire turreted, sutures rather deep; whorls encircled round the upper part with a broad light brown band.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Bohol, Philippines (found under stones at low water); Cuming.

The ribs are unusually distant, and impart a hexagonal character to the shell.

Species 70. (Mus. Metcalfe.)

MANGELIA DIGITALE. *Mang. testā fusiformi-ovatā, solidā, undique creberrimè granoso-clathratis; albicante, zonis duabus purpureis angustis cingulatā.*

THE THIMBLE MANGELIA. Shell fusiformly ovate, solid, very closely granosely latticed throughout; whitish, encircled with two narrow purple zones.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

The sculpture of this species is very similar to that of the *M. solida*, represented at Fig. 64.

Species 71. (Mus. Cuming.)

MANGELIA NANA. *Mang. testā ovatā, spirā brevī, turritā, apice acutā; anfractibus supernè angulatis, longitudinaliter obliquè costatis, interstitiis cavis, subtiliter striatis.*

THE DWARF MANGELIA. Shell ovate, spire short, turreted, sharp at the apex; whorls angulated round the upper part, longitudinally obliquely ribbed, interstices hollow, finely striated.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Mindanao, Philippines (found in sandy mud at the depth of twenty five fathoms); Cuming.

The spire is of a peculiar short dwarf-like character, though sharp at the apex.

MANGELIA.

[Temporary Index.]

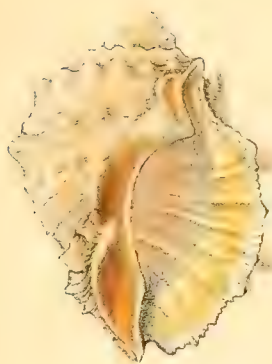
	Plate	Species.		Plate	Species.
abyssicola, <i>Reeve</i>	V.	30	interrupta, <i>id.</i>	III.	16
angulata, <i>id.</i>	VIII.	62	lineata, <i>id.</i>	VI.	12
Antillarum, <i>id.</i>	I.	4	lamellata, <i>id.</i>	II.	12
astrieta, <i>id.</i>	VII.	59	livida, <i>id.</i>	IV.	28
badia, <i>id.</i>	VIII.	60	lyra, <i>id.</i>	I.	3
balteata, <i>id.</i>	VII.	56	lyrica, <i>id.</i>	III.	20
Bertrandi (<i>Pleur.</i>), Payr.	VI.	46	maculata, <i>id.</i>	IV.	22
bicolor, <i>Reeve</i>	V.	31	Marginelloides, <i>id.</i>	I.	6
capillacea, <i>id.</i>	II.	10	marmorosa, <i>id.</i>	VII.	51
casta, <i>id.</i>	VII.	55	nana, <i>id.</i>	VIII.	71
castanea, <i>id.</i>	VI.	48	Novæ-Hollandiæ, <i>id.</i>	IV.	27
cavernosa, <i>id.</i>	II.	8	obeliscus, <i>id.</i>	VII.	57
celebensis, <i>Hinds</i>	VII.	49	obesa, <i>id.</i>	II.	14
cincta, <i>Reeve</i>	VIII.	69	oryza, <i>Hinds</i>	VI.	37
cinnamomea, <i>Hinds</i>	VI.	39	pallida, <i>Reeve</i>	V.	34
citharella (<i>Cancell.</i>), Lam.	I.	5	pellucida, <i>id.</i>	VIII.	61
Columbelloides, <i>Reeve</i>	IV.	24	pessulata, <i>id.</i>	VI.	38
Coniformis, <i>Gray</i>	VIII.	67	planilabrum, <i>id.</i>	VI.	43
Conohelicoides, <i>Reeve</i>	IV.	25	ponderosa, <i>id.</i>	VI.	44
coronata, <i>Hinds</i>	VII.	51	pulehella, <i>id.</i>	III.	18
crassilabrum, <i>Reeve</i>	V.	36	pura, <i>id.</i>	VIII.	63
cylindrica, <i>id.</i>	II.	9	pusilla, <i>id.</i>	VII.	50
derelicta, <i>id.</i>	VIII.	66	pyramidalis, <i>id.</i>	V.	13
digitale, <i>id.</i>	VIII.	70	reticulata, <i>id.</i>	III.	17
Dysoni, <i>id.</i>	V.	29	rigida, <i>id.</i>	VI.	40
elegans, <i>id.</i>	VI.	41	Sicula, <i>id.</i>	I.	1
fasciata, <i>id.</i>	VII.	52	solida, <i>id.</i>	VIII.	64
funebri, <i>id.</i>	V.	32	Stromboides, <i>id.</i>	V.	33
funiculata, <i>id.</i>	I.	7	tæniata, <i>id.</i>	V.	35
fusiformis, <i>id.</i>	III.	19	tenebrosa, <i>id.</i>	IV.	26
gibbosa, <i>id.</i>	III.	21	turricula, <i>id.</i>	IV.	23
Goodallii, <i>Gray</i>	VII.	58	vittata, <i>Hinds</i>	VII.	53
gracilis, <i>Reeve</i>	II.	11	vexillum, <i>Reeve</i>	I.	2
Ginnannia, <i>Risso</i>	VI.	45	Zebuensis, <i>id.</i>	VIII.	68
Hornbeckii, <i>Reeve</i>	VI.	47	zonata, <i>id.</i>	III.	15

ERRATUM.

Species 14. For M. VITTATA—read M. OBESA, *stout*.

MONOGRAPH
OF THE GENUS
P U R P U R A.

“Is not the sea
With various living creatures, and the air
Replenished, and all these at thy command?”—*Milton*



1



2



3



4



5

PURPURA.

PLATE I.

Genus PURPURA, Lamarck.

Testa ovata vel oblongo-ovata, plerumque nodulosa vel tuberculata, spirā brevī, anfractu ultimo tumido, plus minusve inflatā, aperturā dilatatā, fauce sapissimè sulcatā; basi emarginatā; columellā plus minusve depresso-planā; labro plerumque denticulato.

Shell ovate, or oblong-ovate, generally nodulous or tuberculated, spire short, last whorl swollen, more or less inflated, aperture dilated, interior most frequently grooved; base emarginated; columella more or less depressly flattened; lip generally denticulated.

The terms *Κόρυξ*, *Murex*, and *Πορφύρα*, *Purpura*, were used indiscriminately by ancient Greek writers in reference to all mollusks yielding a purple juice, and they became objects of especial interest in that remote age, on account of the limited sources then known of obtaining colour. Who has not heard of the purple dye produced by the '*Tyrius murex*' of Ovid, (*Murex trunculus* Linn.)? which no doubt abounded on the shores of the ancient Phœnician city of Tyros.

The purple juice of the mollusk affords, however, no assistance to the systematist; it abounds alike in animals of very dissimilar character; in *Scalaria* and *Ianthina*, as well as in *Murex* and *Purpura*; hence the term *Purpura* was adopted by Lamarck to distinguish the genus under consideration, regardless of any property with which the animal might be endowed of secreting a purple juice. The most striking feature in the soft parts of *Purpura* is that of the head being a little flattened, and prolonged at each extremity into the tentacles, without any prominence in the centre; approximating in this respect to *Buccinum*. The tentacles are pedunculated to generally two thirds of their extent, and at the summit of the pedunculated portion are the eyes. The operculum which the animal carries on the hind extremity of its disk, is invariably horny, and fits closely to the aperture of the shell.

The shell of *Purpura* is mainly distinguished by an ovate dilated growth, emarginated at the base, with a more or less flattened columella, the spire being sometimes extremely short, sometimes a little acuminate. There are three closely allied genera, *Concholepas*, *Monoceros*, and *Ricinula*, which the French authors propose to fuse into the present; I have not considered it prudent, however, to follow this course, as they afford good typical distinctions, whilst their amalgamation under the head of

Purpura would only tend to confusion by involving a change of names.

The *Purpuræ* vary exceedingly in their detail of sculpture, but are somewhat constant in colour; the well-known *P. lapillus* of Europe varies, however, in both respects to an almost inconceivable degree; indeed, no one who has not thoroughly examined a numerous series of specimens can form an adequate idea of its Protean character.

Species 1. (Mus. Cuming.)

PURPURA ECHINULATA. *Purp. testā ovatā, subventricosā, spirā brevī, transversim tenuissimè striatā et squamoso-tuberculatā, tuberculis subechinulatis; columellā latiusculā, concavā; aperturā amplā, dilatatā, supernè canaliculatā, fauce liratā, liris distantibus; luteo-albicante, columellā et aperturæ fauce aurantio-lutescentibus, liris albidis.*

THE PRICKLY PURPURA. Shell ovate, rather ventricose, spire short, transversely very finely striated and squamosely tuberculated, tubercles somewhat prickly; columella rather broad, concave; aperture large, dilated, canaliculated at the upper part, interior ridged, ridges distant; yellowish white, columella and interior of the aperture orange yellow, ridges whitish.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 84.

Eadem, (fide Deshayes), *Purpura mancinelloides* De Blainville.

Hab. Philippine Islands, Cuming.

The aperture of this species is larger and more dilated than that of the *P. mancinella*.

Species 2. (Mus. Cuming.)

PURPURA MANCINELLA. *Purp. testā ovatā, crassiusculā, spirā brevī, transversim tenuissimè striatā et costatā, costis distantibus, angustis, compresso-nodosis; aperturā supernè canaliculatā, fauce lineatā, lineis elevatis, confertis; luteo-albicante, nodis interdum rufo-fuscis, columellā lutescente, aperturæ fauce rufo-aurantiā, lineis saturatioribus.*

THE PIMPLED PURPURA. Shell ovate, rather thick, spire short, transversely very finely striated and ribbed, ribs distant, narrow, compressly noduled; aperture canaliculated at the upper part, interior lineated, lines elevated and close-set; yellowish white, nodules

sometimes reddish-brown, columella yellowish, interior of the aperture reddish-orange, lines of a darker colour.

Murex mancinella, Linnæus, Syst. Nat. (12th edit.) p. 1219.

Purpura gemmulata, Enc. Mèth.

Hab. Philippine Islands; Cuming.

Distinguished by its lineated aperture.

Species 3. (Mus. Cuming.)

PURPURA PATULA. *Purp. testâ ovatâ, depressâ, spirâ brevissimâ, transversim liratâ et costatâ, costis rudè et irregulariter tuberculatâ; columellâ latâ, plano-concavâ, aperturâ amplissimâ patulâque, supernè canaliculatâ, labro intus sulcato et crenato; cæruleo-fuscescente, costis lirisque nigricantibus, columellâ rufâ, maculâ fuscâ elliptico-semilunari supernè pictâ, labri sulcis nigricante-fuscis.*

THE OPEN-MOUTHED PURPURA. Shell ovate, depressed, spire very short, transversely ridged and ribbed, ribs rudely and irregularly tubercled; columella broad, flatly concave, aperture very large and open, canaliculated at the upper part, lip grooved and crenated within; blueish brown, ribs and ridges blackish, columella red, painted at the upper part with an elliptico-semilunar brown spot, grooves of the lip blackish brown.

Buccinum patulum, Linnæus, Syst. Nat. (12th edit.) p. 1262.

Hab. Philippine Islands; Cuming.

This well-known species is a most characteristic example of the patulous series of the genus.

Species 4. (Mus. Cuming.)

PURPURA CONSUL. *Purp. testâ abbreviato-ovatâ, spirâ conico-acutâ, anfractibus transversim tenuissimè sulcatis et striatis, supernè concavo-depressis, tuberculis grandibus, erectis, ad angulum uniseriatim armatis; aperturâ parviusculâ, fauce labrum versus sulcatâ; albedo-*

fuscescente, nigrilineatâ, columellâ et aperturâ fauce aurantio-rufis.

THE CONSUL PURPURA. Shell shortly ovate, spire conically acute, whorls transversely very finely grooved and striated, concavely depressed round the upper part, armed at the angle with a row of large erect tubercles; aperture rather small, interior grooved towards the lip; whitish brown, crossed with black lines, columella and interior of the aperture orange-red.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 63. *Murex Consul*, Chemnitz.

Hab. Island of Corrigidor, Philippines (on the reefs); Cuming.

The difference between the *P. Consul* and *gigantea*, which have been confounded together, is sufficiently apparent in Chemnitz's figures of them, cited by Lamarck, under the head of the former.

Species 5. (Mus. Cuming.)

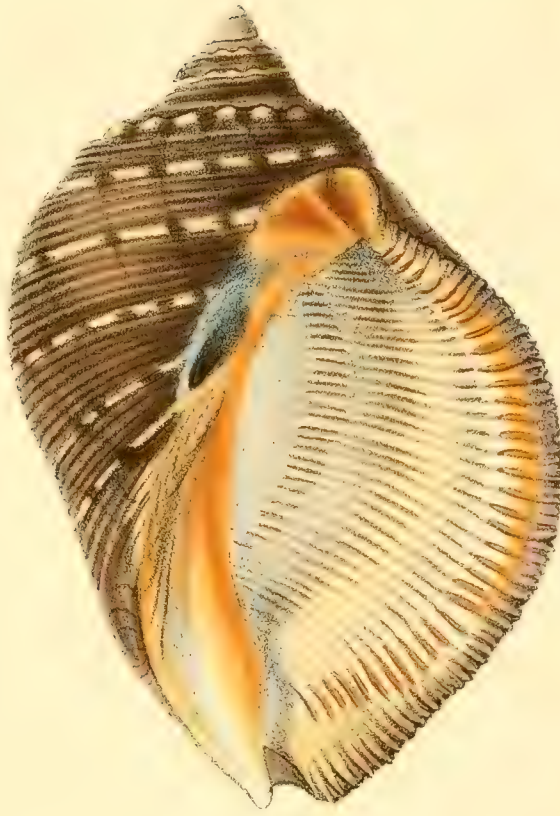
PURPURA BIMACULATA. *Purp. testâ ovatâ, crassâ, solidâ, spirâ brevi, anfractibus supernè depressis, transversim tenuissimè sulcatis et striatis, tuberculorum seriebus duabus tribusve seriatim armatis; albidâ, fuscescente tinctâ, columellâ et aperturâ fauce niveis, tuberculis intus peculiariter nigricante-fuscis.*

THE DOUBLE-SPOTTED PURPURA. Shell ovate, thick, solid, spire short, whorls depressed round the upper part, finely grooved and striated, and armed with two or three rows of tubercles; white, stained with light brown, columella and interior of the aperture snowy white, tubercles blackish-brown within.

JONAS. (Hamburg), MSS.

Hab. Zanzibar.

This species exhibits a curious black-spotted appearance from the tubercles being of a blackish brown colour within; they are covered by a superimposed layer of white, during the growth of the shell, but it becomes more or less worn off by friction or erosion.



PURPURA.

PLATE II.

Species 6. (Mus. Cuming.)

PURPURA HAUSTRUM. *Purp. testā ovatā, basi subattenuatā, spirā brevissimā; transversim irregulariter inciso-striatā; aperturā peramplā, columellā latā, obliquē planatā, labro tenui, minutè denticulato; extus cinereo-nigricante, columellā intusque carulescente-albā.*

THE SCOOP PURPURA. Shell ovate, somewhat attenuated at the base, spire very short; transversely irregularly engraved with striae; aperture very large, columella broad, obliquely flattened, lip thin, finely denticulated; exterior ashy-black, columella and interior blueish white.

QUOY and GAIMARD, Voy. de l' Astrolabe, Zoologie, v. ii. p. 554. pl. 37. f. 4 to 8.

Buccinum haustrum, Martyn.

Buccinum hauritorium, Chemnitz.

Buccinum haustorium, Gmelin.

Hab. New Zealand.

We are indebted to M. Quoy, the enterprising naturalist of the Astrolabe, for having rescued this species from the obscurity into which it had fallen in the hands of Lamarck. It was first described and admirably figured, during the last century, by our countryman Martyn in his 'Universal Conchology,' under the name of *Buccinum haustrum*, or 'Water Scoop Whelk, from New Zealand'; Chemnitz afterwards published an excellent figure and description of the species with the name of *Buccinum hauritorium*, making a needless change in its specific appellation. Lamarck, who was evidently unacquainted with the *Purpura haustrum*, confounded it with the *Purpura persica*, quoting the foregoing names as synonymes of that species; a glance at the accompanying figures will, however, show that it is unnecessary to institute a comparison.

Species 7. (Mus. Cuming.)

PURPURA BUFO. *Purp. testā suborbiculari-ovatā, crassā, spirā brevissimā, plus minusve depressā, transversim inciso-striatā et tuberculis subdistantibus, nunc prominentibus, nunc ferè obsoletis, seriatim armatā; columellā subconcarā, callositate insigni supernè munitā, labro minutè denticulato, supernè conspicuè sinuato; extus nigricante-fusco lineatā, columellā et aperturæ fauce rufescente-luteis.*

THE TOAD PURPURA. Shell somewhat orbicularly ovate, thick, spire very short, more or less depressed, trans-

versely deeply striated, and ornamented with rows of rather distant tubercles, which are sometimes prominent, sometimes almost obsolete; columella rather concave, furnished at the upper part with a remarkable callosity; lip minutely denticulated, conspicuously sinuated at the upper part; exterior lineated with blackish brown, columella and interior of the aperture reddish yellow.

LAMARCK, Anim. sans vert. (Deshayes' edit.), v. x. p. 69.

Variety β.

Testa spirā depressiore, tuberculorum seriebus supremā et infimā prominentibus, callositate crassiore.

Shell with the spire more depressed, the uppermost and lowest row of tubercles more prominent, and the callosity thicker.

Purpura callosa, Lamarck.

Purpura tumida, Schubert and Wagner.

Hab. Island of Corrigidor, mouth of the Bay of Manila (on rocks at low water); Cuming.

M. Deshayes charges M. Kiener, in a note at page 70 of his edition of the 'Animaux sans vertèbres', of having confounded Lamarck's *Purpura callosa* with his *P. bufo*; I cannot, however, agree with the learned editor on this subject. After a careful comparison of the shells with Lamarck's description, coupled with an examination of the figures of Petiver and Seba, I am forced to the conclusion that they are the same species in different states.

M. Kiener describes the *Purpura centiquadrata*, Duclos, as being the young of this species, whilst M. Deshayes, on the other hand, considers it distinct; not having as yet obtained access to the work in which M. Duclos' monograph occurs, I am unable at present to offer an opinion.

Species 8. (Mus. Cuming.)

PURPURA PERSICA. *Purp. testā ovatā, basi leviter attenuatā, spirā brevi, transversim inciso-striatā, striis regularibus, liris intermediis subplanulatis, anfractibus parte superiori obsoletè biseriatim nodulosā; columellā medio longitudinaliter excavatā, aperturā peramplā, labro simplici, subtiliter denticulato, supernè latè sinuato; cinereo-fuscā, zonis albidis fusco-articulatis angustis subdistantibus cingulatā, columellā rubido-luteā, aperturæ fauce rufo-albicante, rufo-lineatā.*

July, 1846.

THE PRINCELY PURPURA. Shell ovate, slightly attenuated at the base, spire short, transversely deeply striated, striæ regular, intermediate ridges rather flattened, upper part of the whorls encircled with two rows of obsolete nodules; columella longitudinally excavated, aperture very large, lip simple, finely denticulated, broadly sinuated at the upper part; ashy brown, encircled with narrow distant white zones articulated with brown, columella reddish yellow, interior of the aperture pinkish white, ornamented with numerous radiating red lines.

LAMARCK, Anim. sans vert. (Deshayes edit.) v. x. p. 59.
Buccinum persicum, Linnaeus.

Hab. Island of Bohol, Philippines (on the reefs at low water); Cuming.

The narrow articulated brown and white zones which constitute so characteristic a feature in this well-known species, seem to have a tendency to become nodulous throughout; although nodules are only apparent in the two uppermost zones which encircle the spire.

Species 9. (Mus. Cuming.)

PURPURA COLUMELLARIS. *Purp. testâ suboblongo-ovatâ, crassâ, spirâ breviusculâ; transversim costatâ et liratâ, costis rudè nodulosis; columellâ latâ, leviter excavatâ, medio obsoletè uniplicatâ, labro denticulato et sulcato, dentibus interioribus binis; nigricante-fuscâ, columellâ et aperturæ margine rufescentibus, fauce rufescente, interdum liratâ.*

THE COLUMELLAR PURPURA. Shell rather oblong-ovate, thick, spire rather short; transversely ribbed and ridged, ribs rudely noduled; columella broad, slightly excavated, with a single almost obsolete plait in the middle, lip denticulated and grooved, inner teeth in pairs; blackish brown, columella and edge of the

aperture reddish, interior reddish-white, sometimes ridged.

LAMARCK, Anim. sans vert. (Deshayes' edit.) v. x. p. 62.
Hab. Gallapagos Islands (on exposed rocks at low water); Cuming.

Distinguished by its solid nodulous structure, and strongly grooved and denticulated lip.

Species 10. (Mus. Cuming.)

PURPURA RUDOLPHI. *Purp. testâ suboblongo-ovatâ, basem versus attenuatâ, spirâ breviusculâ; anfractibus superne subangulatis, transversim inciso-striatis, zonis obtusè nodiferis subdistantibus infra angulum cingulatis; columellâ longitudinaliter sulcatâ, labro simplici, superne sinuato, minutè denticulato; fusco-nigricante, maculis luteo-albicantibus irregulariter aspersâ; columellâ rufescente, aperturæ fauce albidâ, rufescente lineatâ.*

RUDOLPH'S PURPURA. Shell rather oblong-ovate, attenuated towards the base, spire rather short; whorls slightly angulated round the upper part, transversely deeply striated, encircled beneath the angle with rather distant obtusely nodiferous zones; columella longitudinally grooved, lip simple, sinuated at the upper part, minutely denticulated; brownish black, irregularly sprinkled with yellowish-white spots, columella reddish, interior of the aperture whitish, lined with red.

LAMARCK, Anim. sans vert. (Deshayes edit.) v. x. p. 60.

Hab. Matnog, Province of Albay, Island of Luzon, Philippines (on exposed rocks at low water); Cuming.

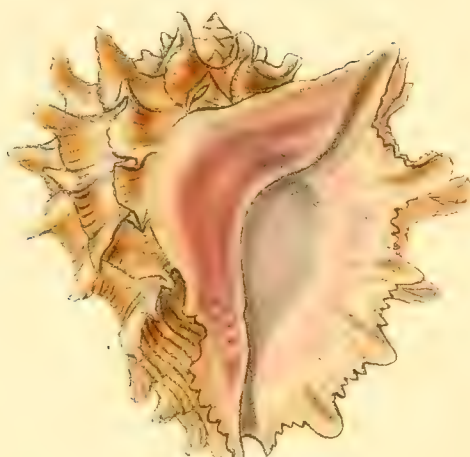
The characters of this species present a sort of confused modification of those of the *Purpura persica*; the transverse zones are broader and most irregularly articulated, and the nodules are of a rude blunted growth.



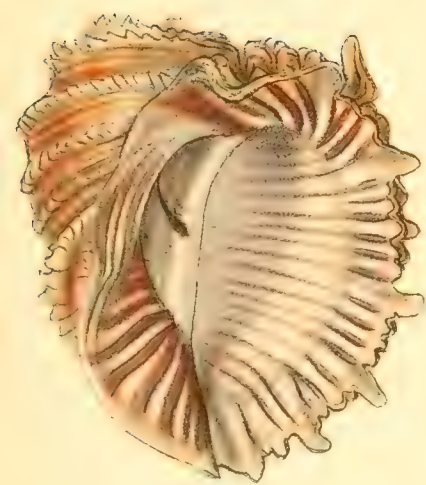
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PURPURA.

PLATE III.

Species 11. (Mus. Cuming.)

PURPURA ASCENSIONIS. *Purp. testā globosā, crassā, persolidā, spirā plano-depressā; lævigatā aut subtiliter striatā; columellā latissimā, plano-concavā, labro minutè denticulato, supernè canaliculato; extus transversim subtilissimè castaneo-striatā, intus eburneā, columellā eburneā, maculis atris tribus aut pluribus aut minoribus conspicuè notatā.*

THE ASCENSION PURPURA. Shell globose, thick, very solid, spire flatly depressed; smooth or finely striated; columella very broad, flatly concave, lip minutely denticulated, channelled at the upper part; exterior transversely very finely striated with chesnut brown, interior ivory white, columella ivory white, conspicuously with three, more or less, jet black spots.

QUOY and GAIMARD, Voy. de l'Astrolabe, Zool. vol. ii. p. 559. pl. 37. f. 20 to 23.

Murex Mæga (pars), Martini.

Hab. Island of Ascension, Atlantic (on rocks at low water).

I am not surprised that Martini should have represented this, and the following species, under one name; it may be more convenient to preserve the distinction assigned to them by M. Quoy, but, that they are extreme modifications of the same thing I have no doubt; I attach greater importance to the brown hair-like lines which characterize these species, than to the presence or absence of tubercles.

Species 12. (Mus. Cuming.)

PURPURA NERITOIDEA. *Purp. testā, suborbiculari, ventricosā, crassiusculā, spirā brevissimā, depressā; transversim striatā, tuberculis solidis prominentibus seriatim cinctā; columellā latā, concavo-planatā; albidā, lineis subtilibus castaneis plus minusve pictā, aperturæ fauce eburneā, maculis atris tribus aut pluribus aut minoribus notatā.*

THE NERITE-LIKE PURPURA. Shell nearly orbicular, ventricose, rather thick, spire very short, depressed; transversely striated, encircled with rows of prominent solid tubercles; columella broad, concavely flattened; white, more or less painted with fine chesnut lines, interior of the aperture ivory white, columella ivory white, marked with three, more or less, jet black spots.

DESHAYES, Anim. sans vert. v. x, p. 70. *note*

Purpura Neritoides, Lamarck.

Murex Neritoideus, Linnæus (12th. ed. Syst. Nat.).

Nerita nodosa, Linnæus (10th. edit. Syst. Nat.).

Murex Mæga, (pars altera), Martini.

Murex fucus, Gmelin.

Purpura fucus, Sowerby, De Blainville.

Hab. Island of St. Vincent, Cape de Verds.

The confusion indicated by the above synonymes arises mainly from the circumstance of Linnæus having referred, for the illustration of his *Murex Neritoideus*, to figures of the *Ricinula horrida*, as well as of the shell under consideration; M. Deshayes clearly shows, however, that Gmelin and his followers are in error, the character "*columellā planiusculā*" used by Linnæus, being quite inapplicable to that species.

Species 13. (Mus. Cuming.)

PURPURA HYSTRIX. *Purp. testā ovato-globosā, subventricosā, umbilicatā, spirā breviusculā, acuminatā; squamis grandibus spiniformibus fornicatis seriatim ornatā; subtiliter liratā, liris minutissimè squamatis, columellā convexā, basi exiliter rugatā, labro intus denticulato; lutescente, columellā et aperturæ fauce roseis.*

THE PORCUPINE PURPURA. Shell ovately globose, slightly ventricose, umbilicated, spire short, acuminate; ornamented with rows of large prominent spiniform vaulted scales, transversely finely ridged, ridges very minutely scaled; columella convex, faintly wrinkled at the base, lip toothed within; yellowish, columella and interior of the aperture rich pink.

LAMARCK, Anim. sans vert. (Deshayes' edit.) v. x. p. 85.

Murex hystrix, Linnæus.

Eadem *Purpura spatulifera*, De Blainville (according to M. Kiener).

Hab. Island of Annua, south Pacific Ocean (on the coral reefs at low water); Cuming.

This species is one of those intermediate states between *Purpura* and *Ricinula*, which have induced some of the continental naturalists to combine the two genera in one. Although it may be referred with equal propriety to either, I think it convenient to perpetuate the generic appellations of Lamarck; all limitations of genera become less defined, as the links which are wanting in the chain of affinity become revealed to observation; if this system of fusion were followed out, the nomenclature would be completely overthrown.

July, 1846.

Species 14. (Mus. Cuming.)

PURPURA PLANOSPIRA. *Purp. testā orbiculari-ovatā, spirā plano-depressā; transversim squamicosatā, costis subdistantibus, interstitiis obtuso-liratis, columellā medio profundè excavatā, labri margine sulcato; extus pallidè rubido-fuscā, columellā albā, maculā oblongā nigrā medio notatā, infra rugis rufis conspicuè tinctā, aperturæ fauce albicante, rufo-lineatā, lineis marginem versus saturationibus.*

THE FLAT-SPIRE PURPURA. Shell orbicularly ovate, spire flatly depressed; transversely scale-ribbed, ribs rather distant, interstices obtusely ridged, columella deeply excavated in the middle, edge of the lip grooved; exterior pale reddish-brown, columella white, marked in the centre with an oblong black spot, conspicuously stained beneath with red wrinkles, interior of the aperture whitish, lineated with red, lines deeper red towards the margin.

LAMARCK, Anim. sans vert. (Deshayes edit.) v. x. p. 71.

Purpura lineata, Enc. Méth.

Hab. James Island, Gallapagos (on exposed rocks); Cuming.

Several specimens of this remarkable shell were collected by Mr. Cuming at the island above noted; and he never met with it in the course of his researches at any other locality.

Species 15. (Mus. Cuming.)

PURPURA APERTA. *Purp. testā orbiculari-ovatā, basem versus subattenuatā, transversim tuberculatā, tuberculis squamæformibus, prominentibus, in seriebus subdistantibus, interstitiis subtiliter liratis; columellā concavo-planatā, rugis perpaucis brevibus notatā, labro sulcato, intus tenuidenticolato; albicante, punctis castaneis obscurè tinctā, columellā et aperturæ fauce albis, columellæ rugarum interstitiis labrique sulcis pallidè rubido-luteis.*

THE OPEN PURPURA. Shell orbicularly ovate, a little attenuated towards the base, transversely tuberculated, tubercles, scale-like, prominent, in rather distant rows, the interstices between which are finely ridged; columella concavely flattened, marked with a very few short wrinkles, lip grooved, finely denticulated within; whitish, interstices between the wrinkles of the columella, and grooves of the lip, palely stained with reddish yellow.

DE BLAINVILLE, Nouv. Ann. du mus.

Purpura macrostoma (?), Conrad.

Hab. San Carlos, Central America.

A very characteristic and well-defined species, which does not appear to have been known to Lamarck. The shell described and figured by M. Kiener as a variety, is merely the same thing in a bad state of preservation.



Fig. 14



Fig. 15



Fig. 16



Fig. 17



Fig. 18

PURPURA.

PLATE IV.

Species 16. (Fig. *a* and *b* Mus. Cuming.)

PURPURA BUCCINEA. *Purp. testā suboblongo-fusiformi, longitudinaliter obsolete costatā, costis latis, transversim undique liratā, liris angustis, acutis, hic illic, subæquidistanter, majoribus, columellā obtusè uniplicatā, aperturā fauce subtiliter radiatim liratā; fuscā, liris majoribus fusco saturatiore alboque nitidè articulatis, aperturā fuscescente-albidā.*

THE BUCCINOID PURPURA. Shell somewhat oblong, fusiform, longitudinally obsolete ribbed, ribs broad, transversely ridged throughout, ridges narrow, acute, here and there, nearly equidistantly, larger, columella obtusely one-plaited, interior of the aperture finely radiately ridged; brown, larger ridges neatly articulated with white and darker brown, aperture brownish white.

DESHAYES, Anim. sans vert. vol. x. p. 92.

Purpura striata, Quoy and Gaimard.

Hab. New Guinea.

An aberrant species of the genus, but possessing an abundance of character. The columella has a strong obtuse plait upon it, and the shell is encircled round the upper part by three narrow articulated fillets.

Species 17. (Mus. Cuming.)

PURPURA GIGANTEA. *Purp. testā subquadrato-ovalā, spirā peculiariter acuminatā, transversim irregulariter subtilissimè sulcatā, anfractibus supernè uni-vel bi-seriatim tuberculatis, tuberculis peculiariter rotundatis et obtusis, aperturā peramplā, margine intus inciso-sulcato; olivaceo-fuscescente, sulcis saturationibus, columellā et aperturā fauce aurantio-rufis.*

THE GIGANTIC PURPURA. Shell somewhat squarely ovate, spire peculiarly acuminate, transversely irregularly very finely grooved, whorls encircled round the upper part with one or two rows of blunt peculiarly rounded tubercles, aperture very large, edge sharply grooved within; pale olive brown, grooves of a dark tinge, columella and interior of the aperture orange-red.

Buccinum hæmastoma, Chemnitz (not of Linnæus), vol. xi. pl. 187. f. 1796-7.

Purpura consul, Kiener (not of Lamarck).

Hab. — ?

It will be seen by the above arrangement of synonymes, that this magnificent species is neither the *Buccinum hæmastoma* of Linnæus, as supposed by Chemnitz, nor the *Purpura consul* of Lamarck, as propounded by Kiener;

the former (Pl. V. Fig. 21.) is an oval shell, encircled throughout with rows of blunt tubercles, and fine dark flattened striæ, the spire being only moderately elevated; the latter (Pl. I. Fig. 4.) is a broad abbreviated shell, with a strong radiating series of prominent tubercles, and a curiously acuminate conical spire. The shell under consideration, differs from both these in being of a more oblong-square form, with a peculiarly elevated acuminate spire, the tubercles though prominent, are of a rounded pimple-like character, and one of the most characteristic features of the species, consists in the surface being encircled throughout with finely engraved grooves, which are the most prominently developed on the summit of the tubercles.

Species 18. (Mus. Cuming.)

PURPURA DELTOIDEA. *Purp. testā abbreviato-ovalā, crassā, ponderosā, transversim impresso-striatā, tuberculis solidis subdistantibus coronatā; castaneo-nigricante, basi albicante, tuberculis albizonatis, columellā pallidè purpureā.*

THE DELTOID PURPURA. Shell shortly ovate, thick, ponderous, transversely impressly striated, coronated with solid, rather distant, tubercles; dark chesnut black, base whitish, tubercles marked with a white zone, columella faintly stained with purple.

LAMARCK, Anim. sans vert. vol. x. p. 85.

Hab. Jamaica; Dr. Adams.

Distinguished from the following species with which we are more familiar, by its spiral ridge of tubercles.

Species 19. (Mus. Cuming.)

PURPURA MELONES. *Purp. testā abbreviato-ovalā, crassā, ponderosā, spirā brevissimā, transversim impresso-striatā, muticā; castaneo-nigricante, albo variā, columellā lutescente, purpureo linctā, aperturā lutescente.*

THE MELON PURPURA. Shell shortly ovate, thick, ponderous, spire very short, transversely impressly striated, smooth; dark chesnut-black, variegated with white, columella yellowish, stained with purple, aperture yellowish.

DUCLOS, Annales Sci. Nat. 1832. Pl. 1. fig. 2.

Purpura crassa, De Blainville.

Hab. Monte Christi, West Columbia (under stones at low water); Cuming.

One of the few species of the genus which are destitute of tubercles.

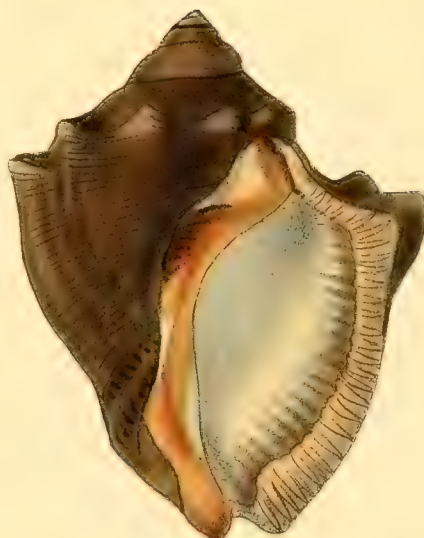
August, 1846.



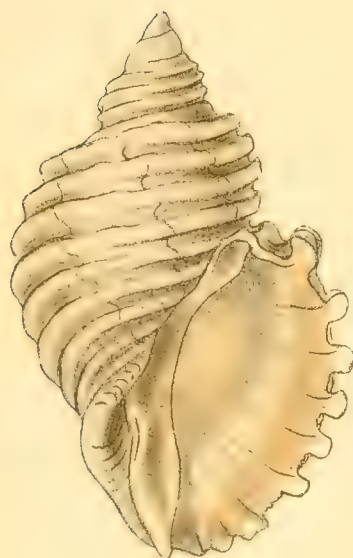
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PURPURA.

PLATE V.

Species 20. (Mus. Cuming.)

PURPURA INERMA. *Purp. testā rotundato-ovatā, ventricosā, spirā acutā, transversim creberrimē subtilissimē lirātā, liris striis longitudinalibus decussatis, aperturā subamplā, labro tenuiculo, intus inciso-sulcato; cinereo-olivaceā, liris maculis albis hic illic sparsim ornatis, columellā et aperturæ fauce rufescente-aurantiis.*

THE UNARMED PURPURA. Shell rotundately ovate, ventricose, spire sharp, transversely very closely and finely ridged, ridges decussated with longitudinal striæ, aperture rather large, lip rather thin, sharply grooved within; ashy olive, ridges sparingly ornamented here and there with white spots, columella and interior of the aperture reddish orange.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

This is probably one of those species which M. Kiener has confounded together, under the title of *Purpura cataracta*, neither of which have the slightest reference to the *Buccinum cataracta* of Chemnitz. I cannot identify it with any species hitherto recorded, and am unable to say whether it is ever tuberculated; there is no indication of tubercles in the specimen before me, and it has a very peculiar style of colouring, the ridges being marked here and there in a very irregular manner, with oblong white spots.

Species 21. (Mus. Cuming.)

PURPURA HEMASTOMA. *Purp. testā ovatā, spirā conicā, anfractibus supernè concavis, transversim planistriatis et quadriseriatim tuberculatis, tuberculis rotundatis obtusis, basem versus obsoletioribus, columellā lævigatā, aperturā oblongā, supernè subconspicuē sinuatā, labro intus inciso-sulcato; olivaceo-fuscā, striis nigricantibus, columellā et aperturæ fauce vividè aurantio-rufis.*

THE RED-MOUTH PURPURA. Shell ovate, spire conical, whorls concave round the upper part, transversely flatly ridged and encircled with four rows of tubercles, which are blunt, rounded, and more obsolete as they approach the base, columella smooth, aperture oblong, rather conspicuously sinuated at the upper part, lip sharply grooved within; olive-brown, striæ blackish, columella and interior of the aperture bright orange-red.

Buccinum hæmastoma, Linnæus, Syst. Nat. (12th edit.) p. 1202.

Eadem? *Purpura cornuta*, Menke.

Hab. Mediterranean.

I am inclined to think with M. Deshayes, that this species is confined to the Mediterranean and Atlantic shores of Europe, concluding that where a more southern locality is quoted, as in the 'Iconographie des Coquilles vivantes,' the author has, probably, had some allied species before him, (such as the *P. ochrostoma*, for example) the specific peculiarities of which he has failed to discriminate.

Species 22. (Mus. Cuming.)

PURPURA CHOCOLATUM. *Purp. testā subabbreviato-ovatā, turgidā, anfractibus supernè concavo-depressis, undique creberrimē et subtilissimē inciso-striatis, tuberculis grandibus, subdistantibus, ad angulum armatis, columellā concavā, labro tenui, intus inciso-sulcato; extus chocolato-fuscā, columellā aurantio-rufā, labro intus chocolato-fusco.*

THE CHOCOLATE-BROWN PURPURA. Shell somewhat shortly ovate, swollen, whorls concavely depressed at the upper part, very closely and finely deeply striated throughout, armed with large rather distant tubercles at the angle, columella concave, lip thin, sharply grooved within; exterior dark chocolate brown, columella orange-red, lip chocolate brown within.

DUCLOS, Annales Sci. Nat. vol. xxvi. pl. 2. f. 7.

Hab. Bay of Callao, Peru (found in sandy mud at the depth of six fathoms); Cuming.

An extremely characteristic species, and so distinct from any other yet described that it is impossible to find any difficulty in recognizing it.

Species 23. (Mus. Cuming.)

PURPURA SUCCINCTA. *Purp. testā ovatā, spirā plus minusve elevatā, anfractibus sic plus minusve intrusis, transversim undique costatā, costis prominentibus, rugosis, obsoletè squamatis, interstitiis profundè excavatis, striatis, costā minore raro interveniente; sordidè lutescente-albā.*

THE ENCIRCLED PURPURA. Shell ovate, spire more or less elevated, whorls accordingly more or less thrust

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inwards, transversely ribbed throughout, ribs prominent, rugose, obsoletely squamate, interstices deeply excavated, striated, with rarely a small intervening rib; dull yellowish white.

Buccinum succinctum, Martyn, Univ. Conch. vol. 2. pl. 45.

Buccinum orbita, Chemnitz.

Buccinum lacunosum, Bruguière.

Buccinum bicostatum, Bruguière.

Variety β .

Testa parva, elongatior, costarum interstitiis laminis tenuibus peculiariter decussatis.

Shell small, more elongated, with the interstices between the ribs peculiarly crossed with thin laminae.

Buccinum striatum, Martyn.

Purpura rugosa, Lamarck.

Purpura striata, Deshayes.

Hab. Cape of Good Hope.

The *Purpura rugosa*, Lamarck, of which M. Kiener has omitted mention, is, I think, without doubt, a modified state of the *P. succincta*, the extremes of which are beautifully represented by Martyn, in the 'Universal Conchology.'

Species 24. (Mus. Cuming.)

PURPURA XANTHOSTOMA. *Purp. testâ pyriformi-ovalâ, ven-*

tricosâ, basi subelongatâ et recurvâ, anfractibus supernè angulatis, ad angulum plus minusve tuberculiferis, longitudinaliter obtusè plicato-costatis, transversim subtiliter costatis, costis angustis, subdistantibus, interstitiis liris minutis, vel obsoletè, vel conspicuè squamatis, creberrimè cingulatis, labro sæpissimè intus denticulato; albâ, columellâ et aperturæ fauce lutescente-lacteis.

THE YELLOW-MOUTH PURPURA. Shell pyriformly ovate, ventricose, rather elongated and recurved at the base, whorls angulated at the upper part, more or less tubercled at the angle, longitudinally obtusely plicately ribbed, transversely finely ribbed, ribs narrow, rather distant, interstices closely encircled with minute ridges sometimes obsoletely, sometimes conspicuously scaled, lip frequently denticulated within; white, columella and interior of the aperture yellowish cream colour.

BRODERIP, Pro. Zool. Soc., 1833.

Hab. Valparaiso (dredged from gravel and sand at various depths, from seven to twenty-five fathoms); Cuming.

This is a most variable species both in form and sculpture, and might be referred in its different states, with the same propriety, either to the genera *Pyrula* or *Fusus*. However unlikely it may appear, an affinity may certainly be traced to the *Fusus squamulosus* of Philippi, inhabiting the Mediterranean, the *Purpura xanthostoma* in a young and highly sculptured condition, being of exactly similar form, and almost as thickly beset with imbricating scales.



PURPURA.

PLATE VI.

Species 25. (Mus. Cuming.)

PURPURA CORONATA. *Purp. testā subglobosā, ventricosā, basi umbilicatā, anfractibus triseriatim nodosis, supernè squamis callosis gibbosis ascendentibus coronatis; albicante, lineis transversis fuscis conspicuè pictā, columellā et aperturā fauce rufo-aurantiis.*

THE CORONATED PURPURA. Shell somewhat globose, ventricose, umbilicated at the base, whorls encircled with three rows of nodules, coronated round the upper part with callous swollen ascending scales; whitish, conspicuously painted with transverse brown lines, columella and interior of the aperture reddish orange.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 72.

Eadem. *Purpura callifera*, Lamarck.

Purpura Guinensis, Schubert and Wagner.

Hab. — ?

The main feature of distinction in this species, consists in the curious vaulted scales which are formed over the suture. Frequently they are increased by a callous deposit of semitransparent matter, having almost the appearance of wax; which state is the *Purpura callifera* of Lamarck.

Species 26. (Mus. Cuming.)

PURPURA CARINIFERA. *Purp. ovatā, spirā acuminatō, anfractibus transversim carinatis et striatis, medio angulato-tumidis et tuberculatis, aperturā supernè sinuatā; cinereo-fuscescente, carinis striisque, columellā et aperturā fauce rufo-aurantiis.*

THE KEELED PURPURA. Shell ovate, spire acuminate, turreted, whorls transversely keeled and striated, angularly swollen and tuberculated in the middle, aperture sinuated at the upper part; ashy brown, keels, striae, columella and interior of the aperture reddish orange.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 73.

Hab. — ?

It is the distinguishing feature of this species to have two keels of a more prominent character than the rest, on the middle and upper half of the whorls, each of which, particularly the lower, is more or less tuberculated.

Species 27. (Mus. Cuming.)

PURPURA ARMIGERA. *Purp. testā ovatā, spirā conico-*

acuminatā, anfractibus supernè depressiusculis, tuberculorum seriebus tribus aut pluribus cingulatis, tuberculis grandibus, crassis, obtusis, valdè prominentibus, columellā et aperturā fauce rosaceo-luteis.

THE ARMED PURPURA. Shell ovate, spire conically acuminate, whorls rather depressed round the upper part, encircled with three or more rows of tubercles, tubercles large, thick, obtuse, very prominent, columella slightly wrinkled; white, encircled with yellowish-brown bands between the rows of tubercles, columella and interior of the aperture pinkish-yellow.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 64.

Buccinum armigerum, Chemnitz.

Hab. — ?

A well-known species, distinguished by its stout prominent tubercles and elevated conical spire; the banded painting is also peculiar.

Species 28. (Mus. Cuming.)

PURPURA BICOSTALIS. *Purp. testā ovatā, spirā subacuminatā, anfractibus transversim undique impresso-striatis, supernè depressiusculis, costis duabus subobsoletis, plus minusve tuberculiferis, cingulatis, columellā obliquè plicato-rugosā, labro intus fortiter inciso-sulcato; fuscescente, strigis flexuosis cinereo-olivaceis longitudinaliter nebulatā, arcis inter strias concinnè fusco articulatis, columellā et aperturā fauce aurantio-rufis.*

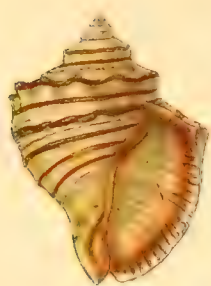
THE TWO-RIBBED PURPURA. Shell ovate, spire a little acuminate, whorls transversely impressly striated throughout, rather depressed at the upper part, encircled with two obsolete ribs, which are more or less tuberculiferous, columella obliquely plicately wrinkled, lip strongly sharply grooved within; light brown, clouded longitudinally with ashy olive streaks, spaces between the striae prettily articulated with brown, columella and interior of the aperture orange-red.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 82.

Hab. St. Elena, West Columbia (found on the rocks at low water); Cuming.

This species, which is probably often confounded with the *P. haemastoma*, may be distinguished in great measure by its neat articulated painting.

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39



39a



39b



39c



39e



39f

PURPURA.

PLATE VII.

Species 29. (Mus. Cuming.)

PURPURA LINEATA. *Purp. testā ovatā, tenui, ventricosā, spirā breviusculā, acutā; anfractibus transversim undique striatis, supernè acutè angulatis, ad angulum plicato-nodosus, nodis subcompressis, infra funiculis obsoletè nodiferis, subirregulariter distantibus, cingulatis; aperturā amplā, fauce subtiliter liratā, labro tenui; luteo-albicante; funiculis castaneis, columellā labrique margine internā aurantio-rufis.*

THE LINEATED PURPURA. Shell ovate, thin, ventricose, spire rather short, acute; whorls transversely striated throughout, sharply angulated, plicately noded at the angle, nodules rather compressed, encircled beneath with rather irregularly distant cords, which are obsoletely nodiferous; aperture large, interior finely ridged, lip thin; yellowish white, cords chestnut brown, columella and inner side of the lip orange-red.

KIENER, Icon. coq. viv. p. 115. pl. 33. f. 80,

Buccinum lineatum, Lamarck.

Hab. — ?

This remarkable shell which is admirably figured in the 'Encyclopédie Méthodique' Pl. 400 f. 6. *a, b*, was included by Lamarck in the genus *Buccinum*; M. Kiener has, however, very properly removed it to *Purpura*.

Species 30. (Mus. Cuming.)

PURPURA IMPERIALIS. *Purp. testā ovatā, basi ampliter umbilicatā, spirā acutè turrītā; anfractibus transversim undique striatis, supernè angulatis, spinis squamiformibus prominentibus subrecurvis conspicuè biserialim cinctis, spinis apicem versus obsoletis; luteo-albicante, aperturæ fauce cæruleo-fusco subindistinctè fasciatā.*

THE IMPERIAL PURPURA. Shell ovate, largely umbilicated at the base, spire sharply turreted; whorls transversely striated throughout, angulated at the upper part, conspicuously encircled with two rows of prominent scale-like spines a little recurved, spines obsolete towards the apex; yellowish white, interior of the aperture somewhat indistinctly banded with blueish brown.

DE BLAINVILLE, Nouv. Ann. du Mus. vol. i. p. 227. pl. 11. f. 6.

Hab. — ?

How M. Kiener can possibly discover any specific rela-

tion between the shells which he has figured as varieties under the above title, I cannot imagine. The *P. imperialis*, which he correctly figures at Fig. 39. is allied rather to the *P. carinifera*, the keels of that species being developed in this into a diadem of recurved spines; the shell represented at Fig. 39. *a*, is of a different form, and exhibits quite another design of sculpture.

Species 31. (Mus. Cuming.)

PURPURA KIOSQUIFORMIS. *Purp. testā fusiformi-ovatā, subscalariformi, transversim undique elevato-striatis, anfractibus medio uni- vel biserialim carinatis et tuberculatis, spiræ suturis profundis, lamellis crispatis erectis concentricè decussatis, labro supernè sinuato; olivaceo-viridi, albo vel cærulescente zonatā, aperturæ fauce interdum fasciatā.*

THE KIOSK-SHAPED PURPURA. Shell fusiformly ovate, somewhat scalariform, transversely elevately striated throughout, whorls encircled round the middle with one or two keels and rows of tubercles, sutures of the spire deep, concentrically crossed with erect crisped lamellæ, lip sinuated at the suture; olive-green, zoned with white or pale blue, interior of the aperture sometimes banded with black-brown.

DUCLOS, Annales Sci. Nat. vol. xxvi. pl. 1. f. 5.

Hab. Bay of Panama (on rocky places at low water); Cuming.

The locality of New Holland cited by M. Kiener for this species, is, I think, a very doubtful one; it was collected by Mr. Cuming at the Bay of Panama.

Species 32. (Mus. Cuming.)

PURPURA D'ORBIGNYI. *Purp. testā fusiformi-ovatā, basi umbilicatā, anfractibus transversim liris prominentibus subdistantibus, supernè convexo-angulatis, ad angulum biserialim tuberculatis, tuberculis compressis, superioribus prominentioribus; albā, ferrugineo-fusco, apicem versus saturatiore, plus minusve tinctā, epidermide crassā fibrosā indutā, aperturā albā.*

D'ORBIGNY'S PURPURA. Shell fusiformly ovate, umbilicated at the base, whorls transversely ridged, ridges prominent, rather distant, convexly angulated at the upper part, encircled at the angle with two rows of compressed tubercles, of which the upper are the

more prominent; white, more or less stained with rusty brown which is darker towards the apex, and covered with a thick fibrous epidermis, aperture white.

Fusus Purpuroides, D'Orbigny, Voyage dans l'Amérique Méridionale, Pl. 63. Fig. 1.

Hab. St. Elena, West Columbia (in the crevices of rocks at low water); Cuming.

I include this species under the head of *Purpura*, in consequence of its unquestionable generic affinity with the *P. kiosquiformis*, and dedicate it to the illustrious traveller and naturalist, the adoption of whose specific name would involve an inconsistent tautology.

Species 33. (Mus. Cuming.)

PURPURA ECHINATA. *Purp. testâ ovatâ, basi umbilicatâ,*

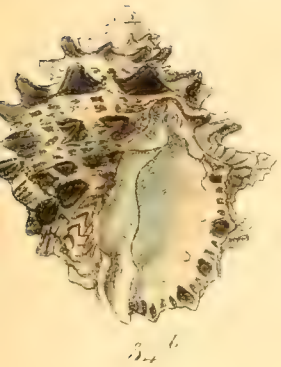
anfractibus transversim undique elevato-striatis, striis subtilissimè squamatis, supernè subangulatis, infra angulum quadriseriatim tuberculatis, tuberculis parvis, nodiformibus; extus pallidè rubiginoso-fuscâ, intus albâ.

THE PRICKLY PURPURA. Shell ovate, umbilicated at the base, whorls transversely elevately striated throughout, striæ very finely scaled, slightly angulated at the upper part, encircled beneath the angle with four rows of small nodule-like tubercles; exterior pale rusty brown, interior white.

DE BLAINVILLE, Nouv. Ann. du Mus. pl. 11 f. 2.

Hab. — ?

A very characteristic and well-defined species, quite distinct from the *P. echinulata* of Lamarck, of which M. Deshayes appears to have omitted mention.



34



35



36



37



38



39



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PURPURA.

PLATE VIII.

Species 34. (Fig. *a*, *b*, and *c*, Mus. Cuming.)

PURPURA HIPPOCASTANUM. *Mur. testā ovatā spirā breviusculā, interdum subelevatā, anfractibus supernè leviter angulatis, seriatim tuberculatis, tuberculis fortibus, nunc obtusis, nunc prominentibus, interareis impresso-striatis, labro intus noduloso; extus albidā, nigerrimo plus minusve tinctā vel articulatā, columellā et aperturæ fauce purpureo-fusco radiatis.*

THE HORSE-CHESNUT PURPURA. Shell ovate, spire rather short, sometimes a little elevated, whorls slightly angulated round the upper part, encircled with rows of tubercles, tubercles strong, sometimes obtuse, sometimes prominent, the interspaces being impressly striated, lip noduled within; exterior whitish, more or less stained and articulated with jet black, columella and interior of the aperture radiated with purple-brown.

Murex hippocastanum, Linnæus.

Hab. Eastern Seas, South Seas, Zanzibar, &c.

I cannot agree with the principle advanced by my esteemed friend, M. Deshayes, in his observations on the *Purpura hippocastanum*, to the effect that any species of Linnæan origin should be abandoned that cannot be satisfactorily identified. The author of the 'Systema Naturæ' had but a meagre range of antiquated figures to refer to for the illustration of his species, and he lived in a time when not only comparatively few shells had been discovered, but when the greater portion were collected dead upon the shore, and in very imperfect condition. The case before us is merely one of those instances in which Linnæus, from the miscellaneous character of his materials, included several species under one specific head. It was his misfortune, in the present case, to refer to figures which have proved to be the representatives of different species, one of which in Rumphius' 'Thesaurus Imaginum' Pl. 24. Fig. C. a *Purpura hystrix*, is an error which appears to have escaped even the penetration of Lamarck. The reference made by Linnæus to Gualter's great figure of the *Pyrula galeodes* (Pl. 31. Fig. F.) is probably a typographical error, for a figure resembling the shell under consideration, occurs at Pl. 43. Fig. V. of the same work, as corrected by Lamarck; it is a serious reflection on the genius and discrimination of the learned Professor of Upsal to imply that he could have simultaneously regarded the figures above cited in Rumphius and Gualter as the representatives of

one and the same species. I think it is tolerably apparent from the references of Linnæus, that he included the *Purpura hippocastanum*, *bitubularis*, and *pica* under one specific head (*Murex hippocastanum*), and confounded them with a dorsal figure of the *P. hystrix*; of these names the first has been assigned by Lamarck to the shell under review, and, although some confusion has arisen amongst naturalists, through one taking one type, and another selecting another, it is manifest that to abandon all on the principle advanced by M. Deshayes, would only lead to confusion worse confounded.

The *P. hippocastanum* is, perhaps, the most readily distinguished by a peculiarity in the arrangement of the colouring matter, which is for the most part articulated in small tessellated squares ranging between the engraved striæ; there is, however, a dark variety represented at Fig. 34. *a*, in which the articulation is lost in the overwhelming deposit of black colouring, in broad close concentric stripes.

Species 35. (Mus. Metcalfe.)

PURPURA LUTEOSTOMA. *Purp. testā oblongo-ovatā, transversim undique striatā, anfractibus supernè angulatis, infra seriatim tuberculatis, tuberculis obtusis, interdum fere obsoletis; luteo-fuscescente, cinereo-nigricante longitudinaliter undatim pictā, columellā et aperturæ fauce rufo-aurantiis.*

THE YELLOW-MOUTH PURPURA. Shell oblong-ovate, transversely striated throughout, whorls angulated at the upper part, encircled with rows of tubercles beneath, which are obtuse, and sometimes nearly obsolete; yellowish brown, painted with longitudinal waves of ashy black, columella and interior of the aperture reddish orange.

DESHAYES, Anim. sans vert. vol. x. p. 98.

Buccinum luteostoma, Chemnitz, vol. xi. p. 83. pl. 187. f. 1800, 1.

Hab. — ?

An interesting species, distinguished by its elevated spire and blueish tinge of colour.

Species 36. (Mus. Cuming.)

PURPURA PICA. *Purp. testā ovatā, crassiusculā, subventricosā, anfractibus supernè angulatis, infra biseriatim tuberculatis, tuberculis solidis, prominentibus, subdis-tantibus, aperturæ fauce striatā; nigro alboque con-*

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spicue variegatâ, columellâ lutescente, rufo-fusco tinctâ, aperturâ lutescente, margine nigro tessellatâ.

THE MAGPIE PURPURA. Shell ovate, rather thick, somewhat ventricose, whorls angulated at the upper part, encircled beneath with two rows of rather distant prominent tubercles, interior of the aperture striated with reddish brown, aperture yellowish, tessellated with black at the margine.

DE BLAINVILLE; Kiener, Icon. Coq. viv. p. 48. pl. 11. fig. 31.

Hab. Island of Luzon, Philippines (under stones at low water); Cuming.

The comparison of affinities which M. Kiener draws between this species and the *P. armigera*, is quite uncalled for, the two species being far removed from each other; it approaches rather to the *P. bitubercularis*, but may be distinguished by its broader and more ventricose shape, and by the more solid and obtuse growth of the tubercles, the aperture also differing in being striated.

Species 37. (Mus. Cuming.)

PURPURA BITUBERCULARIS. *Purp. testâ oblongo-ovatâ, transversim impresso-striatâ, anfractibus supernè subangulatis, infra biseriatim tuberculatis, tuberculis acuminatis, muricatis, labro intus denticulato; extus cinereo-nigricante, et luteo-albido conspiciuè variegatâ, aperturâ rufescente-aurantiâ.*

THE DOUBLE-TUBERCLED PURPURA. Shell oblong-ovate, transversely impressly striated, whorls slightly angulated at the upper part, encircled beneath with two rows of acuminate prickly tubercles, denticulated

within; exterior conspicuously variegated with ashy black and yellowish-white, aperture reddish-orange.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 64.

Purpura Kienerii, Deshayes.

Hab. Philippine Islands; Cuming.

I consider M. Kiener perfectly correct in his illustration of this species, and that his figure is in every respect identical with that of Seba.

Species 38. (Mus. Cuming.)

PURPURA INTERMEDIA. *Purp. testâ oblongo-ovatâ, spirâ brevi, subacuminatâ, anfractibus supernè leviter depressis, transversim impresso-striatis, seriatim obsolete tuberculatis, aperturâ subamplâ, labro plano-incrassato, intus noduloso; nigerrimâ, areis inter tuberculos albi-maculatis, columellâ labrique margine purpureo-fusco tinctis.*

THE INTERMEDIATE PURPURA. Shell oblong-ovate, spire short, a little acuminate, whorls slightly depressed at the upper part, transversely impressly striated, encircled with rows of obsolete tubercles, aperture rather large, lip flatly thickened, nodulous within; very black, spaces between the tubercles blotched with white, columella and edge of the lip stained with purple-brown.

KIENER, Icon. Coq. viv. p. 51. pl. 12. f. 34.

Hab. — ?

An interesting well-defined species, quite distinct from either of those between which M. Kiener has considered it intermediate.



1



2



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4



5



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7

PURPURA.

PLATE IX.

Species 39. (Mus. Cuming.)

PURPURA THIARELLA. *Purp. testā ovatā, subincrassatā, spirā breviusculā, angulato-acuminatā, anfractibus transversim subtiliter liratis, longitudinaliter subplicatis, supernè concavo-angulatis, ad angulum tuberculato-coronatis; cinereo-griseā, columellā albidā, aperturæ fauce lutescente.*

THE LITTLE CROWN PURPURA. Shell ovate, somewhat thickened, spire rather short, angularly acuminate, whorls transversely ridged, longitudinally subplicated, concavely angulated round the upper part, tubercularly coronated at the angle; ashy grey, columella whitish, interior of the aperture yellowish.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. x. p. 83.
Hab. Island of Vanikoro; Quoy.

Approaching very closely to the *P. imperialis*, but constantly distinguishable by its more solid growth and stouter and ruder form.

Species 40. (Mus. Cuming.)

PURPURA CATARACTA. *Purp. testā oblongo-ovatā, Bucciniformi, scabrā, transversim subobsoletè sulcatā, striis longitudinalibus obliquè decussantibus; columellā plano-depressā, aperturā inflatā; griseo-albicante, strigis nigricantibus, irregulariter undulatis, longitudinaliter pictā, columellā et aperturæ fauce purpureo-fuscis.*

THE CATARACT PURPURA. Shell oblong-ovate, Buccinum-shaped, rough, transversely obsoletely grooved, with longitudinal striæ crossing obliquely; columella flatly depressed, aperture inflated; greyish-white, painted longitudinally with irregularly undulating black streaks, columella and interior of the aperture purple-brown.

Buccinum cataracta, Chemnitz, Conch. Cab. vol. x. p. 188. pl. 152. f. 1455.

Hab. —?

No author appears to have yet succeeded in identifying the mysterious *Buccinum cataracta* of Chemnitz; it is easy to frame a description referring to it, as did Lamarck, or to criticise the illustrations of others, as M. Deshayes has very properly done, but the test of an author's researches is to produce the shell. M. Kiener in attempting this, has unfortunately added to the confusion; in his monograph of *Purpura*, he has figured at least two, if not three,

species for *P. cataracta* and varieties, not one of which exhibits the slightest approach to Chemnitz's figure, and all presenting the ordinary character of a grooved aperture, the absence of which in the *Buccinum cataracta* is one of its distinguishing features. Again, on referring to M. Kiener's monograph of *Buccinum*, it will be found that he has figured another totally different shell under the name of *B. Delalandi*, referring, for the sake of illustration, to Chemnitz's figure of *B. cataracta*. If M. Kiener regarded that shell as the species now under investigation, why not have adopted Chemnitz's name, instead of complimenting M. Delalande in opposition to the ordinary rules of nomenclature? we are all liable to error, and to avoid it is impossible, but the necessity for such a reiteration of critical correction as the labours of this author invoke, becomes irksome.

The specimen here described and figured for the *P. cataracta* does not accord so intimately with Chemnitz's figure as could be wished, but I believe it to be the shell intended, and leave others to form their own opinion of the accuracy of my views. It is a rough shell, obscurely grooved and striated, conspicuously and most irregularly undulated with black upon a white ground, the columella and interior of the aperture being perfectly smooth, and of a chocolate or purple-brown colour.

Species 41. (Mus. Cuming.)

PURPURA BLAINVILLII. *Purp. testā ovatā, spirā subacuminatā, anfractibus transversim nodoso-costatis, interstitiis subtiliter liratis; columellā subangustā, labro intus sulcato, margine denticulato; aperturā subinflatā; fuscā, columellā albā, ferrugineo-rufo marginatā.*

DE BLAINVILLE'S PURPURA. Shell ovate, spire a little acuminate, whorls transversely nodosely ribbed, interstices finely ridged; columella rather narrow, lip grooved within, denticulated at the margin; aperture a little inflated; brown, columella white, edged with ferruginous red.

DESHAYES, Anim. sans vert. vol. x. p. 93.

Purpura Callaoensis, De Blainville, Kiener, (not of Gray).

Hab. Bay of Callao, Peru.

A light, rather delicately formed shell, in which the columella is edged with dark red.

Species 42. (Mus. Cuming.)

PURPURA ÆGROTA. *Purp. testā oblongo-ovatā, transversim nodoso-costatā et liratā, columellā depressā, aperturæ fauce conspicuè sulcatā; sordide lacteā, liris fusciscentibus, labro intus croceo-rufescente.*

THE SICKLY PURPURA. Shell oblong-ovate, transversely nodosely ribbed and ridged, columella depressed, interior of the aperture conspicuously grooved; dingy cream colour, ridges tinged with light brown, lip saffron-red within.

Hab. New Holland.

A very characteristic species, from New Holland, of which several specimens have been recently collected by Mr. Jukes, during the surveying expedition of H. M. S. 'The Fly.' It approaches nearest to the *P. hamastoma*, but is of a different style of sculpture, and always characterized by a pallid tone of colouring.

Species 43. (Mus. Cuming.)

PURPURA UNDATA. *Purp. testā oblongo-ovatā, utrinque subattenuatā, spirā angulato-acuminatā; anfractibus transversim subtiliter granoso-liratis, supernè depressis, transversim costatis, costis peculiariter compresso-tuberculatis; albo et cinereo-fusco longitudinaliter undatim pictā, costis hic illic lutescentibus, columellā et aperturæ fauce luteis.*

THE WAVED PURPURA. Shell oblong-ovate, a little attenuated at each end, spire angularly acuminate; whorls transversely ribbed, ribs peculiarly compressly tubercled; painted longitudinally with waved ashy-brown and white, ribs here and there yellowish, columella and interior of the aperture yellow.

LAMARCK, *Anim. sans vert.* (Deshayes' edit.) vol. x. p. 67.

Hab. Monte Christi, West Columbia (under stones at low water); Cuming.

Another example in which M. Kiener has figured different species as varieties; easily determined, however, by its waved painting, and the compressed character of the tubercles.

Species 44. (Mus. Cuming.)

PURPURA FLORIDANA. *Purp. testā oblongo-ovatā, utrinque conspicuè attenuatā, spirā acutā; anfractibus supernè*

depressis et subtiliter nodosis, transversim undique creberrimè liratis et sulcatis; aperturæ fauce fortiter sulcatā; cæruleo-griseā, zonis luteis angustis indistinctè et irregulariter cingulatā, undulis nigricantibus longitudinaliter subindistinctè pictā, columellā et aperturæ fauce aurantio-luteis.

THE FLORIDA PURPURA. Shell oblong-ovate, conspicuously attenuated at both ends, spire sharp; whorls depressed and finely noded round the upper part, transversely very closely ridged and grooved throughout, interior of the aperture strongly grooved; blueish-grey, indistinctly and irregularly encircled with narrow yellow zones, and rather indistinctly painted with blackish longitudinal waves, columella and interior of the aperture orange-yellow.

CONRAD, *Journ. Acad. Nat. Sci. Philadelphia*, vol. vii. pl. 20. f. 21.

Hab. Florida.

A shell of elongated growth with a row of fine nodules round the upper portion of the whorls; of a blueish grey colour, waved longitudinally with black streaks.

Species 45. (Mus. Cuming.)

PURPURA FASCIATA. *Purp. testā oblongo-ovatā, spirā acuminatā, exsertā, transversim subtiliter liratā et sulcatā, labro minutè denticulato; cæruleo-albicante, fasciis tribus angustis lutescentibus cingulatā, interstitiis nigricante longitudinaliter undulatis, aperturæ fauce albicante, prope marginem purpureo-radiatā.*

THE BANDED PURPURA. Shell oblong-ovate, spire acuminate, exserted, transversely finely ridged and grooved; aperture rather short, a little inflated, interior grooved, lip minutely denticulated; blueish-white, encircled with three narrow yellowish bands, interior of the aperture whitish, rayed near the edge with purple.

Hab. — ?

There is a marked peculiarity of form as well of colouring in this shell; the spire is acuminate whilst the aperture is short and almost rounded; the three equidistant yellow bands which encircle the last whorl are characteristic, and so also is the purplish-white tinge of the aperture, in which there is no indication of yellow or orange-red.



17a



17b



18



19



20



21

PURPURA.

PLATE X.

Species 46. (Mus. Cuming.)

PURPURA EMARGINATA. *Purp. testā ovatā, crassā, spirā brevi, anfractibus obliquè plicatis et corrugatis, transversim costatis, costis rugosis, compressis, acutè nodosis; columellā excavatā, ampliter dilatatā; rubido-fuscā, aperturæ fauce fuscā, columellā labroque albicantibus.*

THE EMARGINATED PURPURA. Shell ovate, thick, spire short, whorls obliquely plaited and wrinkled, transversely ribbed, ribs rugose, compressed, sharply noded; columella excavated, largely dilated; reddish-brown, interior of the aperture brown, lip and columella whitish.

DESHAYES, Rev. Zool. Soc. Cuv., 1839. Magasin de Zool. 1841, Moll. Pl. 25.

Purpura Conradi, Nuttall.

Hab. California? New Zealand?

There is a considerable degree of uncertainty attending this species, which I am not able to clear up. M. Deshayes described and figured a shell in the Magasin de Zoologie, under the name of *P. emarginata*, in an immature state, emarginated at the lip, said to be brought from New Zealand by M. Chiron; in the British Museum are several well-authenticated specimens, answering in their minutest particulars with M. Deshayes' description and figure above referred to, collected by Mr. Nuttall in California, and named by him, in manuscript *P. Conradi*.

The emargination noticed by M. Deshayes becomes almost obliterated with age, and the species differs exceedingly in its growth, the transverse ribs varying from smooth to roughly noded.

Species 47. (Fig. *a* and *b*, Mus. Cuming.)

PURPURA LAPILLUS. *Purp. testā ovatā, spirā acutā, anfractibus lævibus, aut transversim crebrè liris, liris obsoletè squamatis; columellā excavatā, aperturā dilatā; albidā, aurantio-luteo conspicuè fasciatā, aut ferrugineo-fuscā.*

THE LITTLE STONE PURPURA. Shell ovate, spire sharp, whorls smooth, or transversely closely ridged, ridges obsoletely scaled; columella excavated, aperture dilated; whitish, conspicuously banded with orange-yellow, or rusty brown.

Variety β .

Testa creberrimè fimbriato-laminata.

Shell very closely fimbriately laminated.

Buccinum lapillus, Linnæus, Syst. Nat. (12th edit.), p. 1202.

Eadem. Buccinum filosum, Gmelin.

Hab. Shores of Europe.

To particularize every discriminable variety of this Protean species would occupy more space than the limits of the present work will allow; suffice it to illustrate the ordinary yellow-banded and lamellated states, and to observe by way of caution, that its modifications of colour and sculpture are infinite. M. Kiener has figured twenty-one different varieties of the *Purpura lapillus*.

Species 48. (Mus. Cuming.)

PURPURA SQUAMOSA. *Purp. testā oblongo-ovatā, subventricosā, spirā prominulā, suturis profundis; anfractibus rotundatis, transversim crebricostatis, costis angustis, obscure squamosis, interstitiis concinnè striatis; rubido-castaneā, aperturæ fauce albā.*

THE SQUAMOSE PURPURA. Shell oblong-ovate, somewhat ventricose, spire prominent, sutures deep; whorls rounded, transversely closely ribbed, ribs narrow, obscurely scaled, interstices neatly striated; reddish chesnut, interior of the aperture white.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. x. p. 74.

Hab. Tigre Bay, Abyssinia.

Approaching rather in form to the Whelk division of the *Buccina*.

Species 49. (Mus. Cuming.)

PURPURA ATTENUATA. *Purp. testā oblongo-ovatā, basi peculiariter attenuatā, anfractibus supernè rotundatis, transversim creberrimè carinatis, carinis irregularibus, angustis, lateraliter excavatis, interdum obliquè subtilissimè laminatis; intus extusque fuscā.*

THE ATTENUATED PURPURA. Shell oblong-ovate, peculiarly attenuated at the base, whorls rounded at the upper part, transversely very closely ridged, ridges irregular, narrow, excavated at the sides, sometimes obliquely very finely laminated; brown within and without.

Hab. — ?

Although partaking somewhat of the character of *P. lapillus*, I believe it to be nevertheless distinct.

September, 1846.

Species 50. (Mus. Cuming.)

PURPURA SEPTENTRIONALIS. *Purp. testā subfusiformi-
ovatā, crassā, ponderosā; basi subcanaliculatā et re-
curvā; anfractibus lævibus, transversim obsoletè liratis;
aperturā parvā, labro intus obscurè denticulato; cas-
taneo-fuscā, intus albā.*

THE NORTHERN PURPURA. Shell somewhat fusiformly
ovate, thick, ponderous, slightly channelled and re-
curved at the base; whorls smooth, transversely
obsoletely ridged; aperture small, lip obscurely den-
ticulated within; chesnut brown, interior white.

Hab. Sitka, north-west coast of America

A solid ponderous shell, attenuately produced at the
base.

Species 51. (Mus. Cuming.)

PURPURA FREYCINETII. *Purp. testā ovatā, tenui, inflatā,
basem versus attenuatā, spirā brevissimā, acutā; an-*

*fractibus obscurè subtiliter multicarinatis; columellā
excavatā, angustā, infernè peculiariter compressā;
aperturā amplā; pallidè fuscā, obscurè fasciatā, aper-
turæ fauce labroque albicantibus.*

FREYCINET'S PURPURA. Shell ovate, thin, inflated, atte-
nuated towards the base, spire very short, sharp;
whorls obscurely finely many-keeled; columella exca-
vated, narrow, peculiarly compressed at the lower
part; aperture large, pale brown, obscurely banded
lip and interior of the aperture whitish.

DESHAYES, *Revue Zool. Soc. Cuv.*, 1839. *Magasin de Zool.*
1841, *Moll. Pl.* 26.

Hab. Kamtschatka.

M. Deshayes describes this species as approximating to
the *Purpura Rudolphi*, I fear however that this observation
has rather a tendency to mislead; it is much more closely
allied to the *Purpura haustum*, having the same light
attenuated form, although sufficiently remote in general
character.



52



54



53



55



56



57



58



59a



59b



60

PURPURA.

PLATE XI.

Species 52. (Mus. Cuming.)

PURPURA MUSIVA. *Purp. testâ subfusiformi-ovatâ, medio angulatâ, transversim subtiliter striatâ, seriatim tuberculatâ, tuberculis ad angulum prominentibus, labro intus denticulato; albidâ, tuberculorum seriebus alternatim aterrimis et rufo-fuscis, aperturæ fauce cærulescente.*

THE MOSAIC PURPURA. Shell somewhat fusiformly ovate, angulated in the middle, transversely finely striated, encircled with rows of tubercles, which are prominent on the angle, lip denticulated within; whitish, rows of tubercles alternately jet black and reddish brown, interior of the aperture blueish.

KIENER, Icon. Coq. vivantes, p. 38. pl. ix. f. 22.

Hab. Island of Ticao, Philippines (on the reefs); Cuming.

An interesting species, which may be easily recognized by the alternating colour of the tubercles, those on the angle being reddish or light chesnut brown, and of a more prominent structure than those next in order, which are black.

Species 53. (Mus. Cuming.)

PURPURA TRIGONA. *Purp. testâ ovatâ, crassiusculâ, medio gibbosâ, utrinque attenuatâ, spirâ brevi; anfractibus supernè angulatis, transversim sulcatis et liris; aperturâ subelongatâ; cæruleâ et albâ, fusco irregulariter strigatâ, columellâ et aperturæ fauce lutescente-albis.*

THE TRIANGULAR PURPURA. Shell ovate, rather thick, gibbous, attenuated at both ends, spire short; whorls angulated round the upper part, transversely grooved and ridged; aperture somewhat elongated; blue and white, irregularly streaked with reddish brown, columella and interior of the aperture yellowish-white.

Hab. China and Malacca (under stones at low water).

Chiefly distinguished by its stout triangular form.

Species 54. (Mus. Cuming.)

PURPURA RUSTICA. *Purp. testâ ovatâ, spirâ acutâ, transversim liratâ et striatâ, liris plus minusve tuberculatis, longitudinaliter subobscurè plicatâ, labro intus denticulato et sulcato; longitudinaliter fusco strigatâ, interstitiis plumbeis, liris interdum pallidè flavescentibus, tuberculis semper coccineo-rufis; columellâ et aperturæ fauce aurantio-luteis.*

THE RUSTIC PURPURA. Shell ovate, spire sharp, transversely ridged and striated, ridges more or less tuberculated, longitudinally streaked with brown, interstices

lead-colour, ridges sometimes tinged with pale yellow, tubercles always deep scarlet-red; columella and interior of the aperture orange-yellow.

LAMARCK, Anim. sans vert. vol. x. p. 83.

Hab. Island of Luzon, Philippines (under stones at low water); Cuming.

M. Kiener, whose natural acuteness of perception seems somewhat inferior to that of his predecessor Lamarck, has figured an example of this species for an immature variety of the *P. undata*; it is, however, constantly distinct.

The *Purpura rustica* is uniformly smaller than the *P. undata*, and throughout all its variations of form between the little tuberculated example represented by Kiener (Pl. 34. f. 81 c.), and the nearly smooth specimen figured in the accompanying plate, is forcibly characterized by the scarlet-red colouring of the ridges on the tubercles.

Species 55. (Mus. Cuming.)

PURPURA TUMULOSA. *Purp. testâ ovatâ, subcentricosâ, spirâ breviusculâ, anfractibus quadriseriatim tuberculatis, tuberculis rotundatis, tumidis, lævigatis, interstitiis subtiliter sulcatis; albidâ, tuberculis nigricante-fuscis, columellâ et aperturæ fauce flavicantibus.*

THE TUMULOUS PURPURA. Shell ovate, somewhat ventricose, spire rather short, whorls encircled with four rows of smooth round swollen tubercles, interstices finely grooved; whitish, tubercles blackish-brown, columella and interior of the aperture yellowish.

Hab. Zanzibar (on the reefs).

Easily distinguished by its prominent smooth rounded tubercles, which have a curious swollen appearance.

Species 56. (Mus. Cuming.)

PURPURA SPECIOSA. *Purp. testâ ovatâ, spirâ brevissimâ; anfractibus supernè depressis, triseriatim tuberculatis, tuberculis mucronatis, acutis; albidâ, quadris parvis castaneo-fuscis undique tessellatâ, zonis albidis inter tuberculos, columellâ et aperturæ fauce aurantio-luteis.*

THE BEAUTIFUL PURPURA. Shell ovate, spire very short; whorls depressed round the upper part, encircled with three rows of sharp-pointed tubercles; whitish, tessellated throughout with small chesnut-brown squares, with white zones between the tubercles, columella and interior of the aperture orange-yellow.

VALENCIENNES, Zool. Humboldt's Voyage.

Purpura centiquadra, Duclou.

Hab. Acapulco; Humboldt.

September, 1846.

M. Kiener is evidently unacquainted with the *P. speciosa*; it is quite distinct from the young of the *P. bufo*, to which he refers it; and may be recognised by the peculiar exactness of the little squares into which its colour is distributed.

Species 57. (Mus. Cuming.)

PURPURA CAROLENSIS. *Purp. testâ orbiculari, spirâ brevissimâ, depressâ, anfractibus transversim fortiter biseriatim tuberculatis, subtiliter inciso-lineatis, areis intermediis minutissimè regulariter striatis; spadiceo-fuscescente, intus niveâ.*

THE CHARLES ISLAND PURPURA. Shell orbicular, spire very short, depressed; whorls encircled with two rows of very prominent tubercles, and finely engraved lines, the interstices between which are very minutely regularly striated; light bay colour, interior snowy white.

Hab. Charles Island, Gallapagos (under stones at low water); Cuming.

Care must be taken not to confound this species with the *P. Callaensis*; it is rounder and of more ventricose proportions, is much more strongly tuberculated, and the minute engraved detail is different, the areas between the fine grooves being more numerous and regularly striated.

Species 58. (Mus. Cuming.)

PURPURA SACELLUM. *Purp. testâ fusiformi-ovatâ, spirâ acuminatâ; anfractibus supernè angulatis, ad angulum et infra seriatim squamatis, squamis erectis, submuricatis, peculiariter compressis, interstitiis minutissimè squamulatis; luteo-albicante, squamis fuscescentibus.*

THE TEMPLE PURPURA. Shell fusiformly ovate, spire acuminate, whorls angulated round the upper part, encircled with rows of erect somewhat prickly peculiarly compressed scales on and below the angle, the interstices between which are very minutely scaled; yellowish white, scales light brown.

Murex sacellum, Chemnitz, Conch. Cab. vol. x. p. 267.

Hab. — ?

The shell figured by M. Kiener for the *Purpura sacellum*, accords distinctly with Lamarck's description of the species, but it is not the *Murex sacellum* of Chemnitz; neither Lamarck nor Kiener have identified it. M. Deshayes notices the discrepancy between the figures of Kiener and Chemnitz, and it is peculiarly gratifying to me to be enabled to produce the true species. The accompanying figure may appear somewhat dissimilar from the antiquated drawing in the 'Conchylien Cabinet,' at first sight, but a comparison with the original description removes all doubt on the subject:—"testa umbilicata, flavescente, costis muricato-spinosis circumcincta, anfractibus supra late planiusculis et margine acuto, imbricato,

a parietibus distinctis, spinis costarum ex fusco maculatis, subulatis, labro crenato, caude recta adscendente".

The shell figured by M. Kiener Pl. 14, Fig. 39 a, as a variety of the *P. imperialis*, is, I think, a *P. sacellum*.

Species 59. (Fig. a and b. Mus. Cuming.)

PURPURA MURICINA. *Purp. testâ ovatâ vet oblongo-ovatâ, anfractibus supernè depressis, longitudinaliter plicato-costatis, costis interdum duplicatis, superficie totâ minutissimè et creberrimè squamatâ; sordidè fuscâ vel nigricante, albo articulatâ et tessellatâ, columellâ labroque chocolato-fuscis, aperturâ fauce cærulescente.*

THE LITTLE MOUSE PURPURA. Shell ovate or oblong-ovate, whorls depressed round the upper part, longitudinally plicately ribbed, ribs more or less tuberculated, transversely ribbed, ribs sometimes duplicated, entire surface of the shell very minutely and closely scaled; dun brown or blackish, articulated and tessellated with white, lip and columella chocolate-brown, interior of the aperture blueish.

DE BLAINVILLE. Nouv. Ann. du Mus. pl. 10. Fig. 2 to 5.

Purpura tessellata. Sowerby, Genera of Shells.

Hab. Philippine Islands, (under stones); Cuming.

This extremely variable, yet well-defined, species, was introduced by M. De Blainville, under three heads, *P. muricina*, *Muricoides*, and *Turbinoïdes*; and in M. Kiener's 'Iconographie', it will be found that the shells represented in his group of 'Pourpres semi-ricinules' Fig. 13 and 17, are clearly identical with that figured among his 'Pourpres buccinoides' at Fig. 82. The species is subject to a remarkable degree of modification, but may be recognized in all its phases, amongst other characters, by the surface being closely bestudded with minute scales.

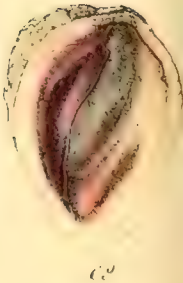
Species 60 (Mus. Cuming.)

PURPURA ALVEOLATA. *Purp. testâ subfusiformi-ovatâ, transversim obscurè costatâ, undique inciso-striatâ, costis obsolete tuberculatis, tuberculis obtusis, superficialiis, columellâ subdepressâ, labro intus dentato; albidâ, tuberculis nigris, areis inter striae maculis nigris oblongis interruptis, columellâ et aperturâ fauce aurantio-luteis.*

THE CHECKERED PURPURA. Shell somewhat fusiformly ovate, transversely obscurely ribbed, encircled throughout with engraved striae, ribs obsolete tuberculated, tubercles black, spaces between the striae interrupted with oblong black spots, columella and interior of the aperture orange yellow.

Hab. Panama (under stones); Cuming.

A very characteristic species easily recognized by its style of colouring above described.



PURPURA.

PLATE XII.

Species 61. (Mus. Cuming.)

PURPURA ANAXARES. *Purp. testā ovatā, subfusiformi, transversim inciso-striatā et fortiter tuberculato-nodosā, labro intus denticulato; purpureo-nigrā, nodis albis, aperturā fauce purpureā.*

THE DIMINUTIVE PURPURA. Shell ovate, somewhat fusiform, transversely deeply striated and strongly tubercularly noded, lip denticulated within; purple-black, nodules white, interior of the aperture dark purple.

DUCLOS; Kiener, Icon. Coq. viv. p. 26. pl. 7. f. 17.

Hab. Lord Hood's Island (on the reefs); Cuming.

Distinguished by its conspicuous white nodules.

Species 62. (Mus. Cuming.)

PURPURA DIADEMA. *Purp. testā subfusiformi-ovatā, spirā acuminatā; anfractibus supernè depressis, subtiliter impresso-striatis, striis obsoletè punctatis; spiraliter bicarinatis, carinis tuberculatis, tuberculis compressis, erectis; pallidè spadiceā, intus albā.*

THE DIADEM PURPURA. Shell somewhat fusiformly ovate, spire acuminate; whorls depressed round the upper part, finely impressly striated, striae obsoletely punctured; spirally double-keeled, keels tuberculated, tubercles compressed, erect; light bay colour, interior white.

Hab. Payta (on the reefs); Cuming.

Easily recognized by its compressly tubercled keels.

Species 63. (Mus. Cuming.)

PURPURA COSTULARIS. *Purp. testā fusiformi, longitudinaliter plicato-costatā, transversim creberrimè et subtilissimè liriatā, liris minutissimè squamatis; aperturā parvā, labro serrato; violascente-albā, columellā et aperturā fauce vividè violaceis.*

THE SMALL-RIBBED PURPURA. Shell fusiform, longitudinally plicately ribbed, transversely very closely and finely ridged, ridges very minutely scaled; aperture small, lip serrated; violet-tinged white, columella and interior of the aperture deep violet.

DE BLAINVILLE, Nouv. Ann. du Mus. pl. 11, f. 9.

Murex costularis, Lamarck.

Hab. Isle of Masbate, Philippines (under stones at low water); Cuming.

I include this shell in the present genus on account of its affinity with the *P. galea*, violacea, &c.

Species 64. (Mus. Taylor.)

PURPURA UNIFASCIALIS. *Purp. testā ovatā, tenui, ven-*

tricosā, anfractibus transversim tenuissimè striatis, biserialiter nodosis, supernè depressis; columellā angustā, aperturā dilatatā, subtiliter sulcatā; spadiceo-fuscā, fasciā albidā angustā medio cingulatā, aperturā sulcis prope labrum rufescentibus.

THE SINGLED-BANDED PURPURA. Shell ovate, thin, ventricose, whorls transversely very finely striated, encircled with two rows of nodules, depressed round the upper part; columella narrow, aperture dilated, finely grooved; light bay colour, encircled round the middle by a narrow whitish band, grooves of the aperture red near the lip.

LAMARCK, Anim. sans. vert. (Deshayes edit.) vol. x. p. 86.

Hab. —?

This is not a variety of the *P. hamastoma*, as M. Kiener supposes, but a very excellent species, distinguished, without reference to the banded style of colouring, by its light inflated growth and other peculiarities of detail; it approaches very closely to the *P. Blainvillii*, but the aperture is proportionably larger and more dilated, the columella is not, moreover, edged with red. The shell before me answers with peculiar accuracy, irrespective of the band, both with Lamarck's description, and the figure cited by him in the 'Encyclopédie Méthodique.'

Species 65. (Mus. Cuming.)

PURPURA GALEA. *Purp. testā abbreviato-ovatā, Pyrulae-formi, ampliter umbilicatā, spirā brevi; anfractibus, longitudinaliter plicatis, supernè plano-depressis, transversim costatis, et creberrimè subtiliter liratis, liris minutissimè squamatis; albā, coccineo pallidissimè tinctā.*

THE HELMET PURPURA. Shell abbreviately ovate, Pyrula-shaped, largely umbilicated, spire short; whorls longitudinally plicated, flatly depressed round the upper part, transversely ribbed and very closely finely ridged, ridges very minutely scaled; white, very faintly tinged with scarlet.

Murex galea, Chemnitz, Conch. Cab., vol. x. p. 237. pl. 160. fig. 1518, 1519.

Pyrula abbreviata, Lamarck.

Purpura abbreviata, Kiener.

Hab. Island of Luzon, Philippines (under stones at low water); Cuming.

This remarkable species is very closely allied, generically, to the *Pyrula Mawæ*, but its affinity with the *Purpura violacea* and others, renders the present the most appropriate genus for its reception.

Species 66. (Mus. Taylor.)

PURPURA TEXTILIOSA. *Purp. testā ovatā, ventricosā, transversim undiquē obsoletē costatā, costis superficialiis, irregularibus, confertis, interstitiis subindistinctē pertusis, aperturā amplā; sordidē albā, labro intus pallidē aurantio tincto.*

THE INTERWOVEN PURPURA. Shell ovate, ventricose, transversely obsoletely ribbed throughout, ribs superficial, irregular, close-set, interstices rather indistinctly punctured, aperture large; dull white, lip palely tinged within with orange.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. x. p. 77.
Hab. New Holland.

Amplly distinguished from the *P. succincta* by the superficial character of the encircling ribs, the *P. textiliosa* yet passes into that species through a succession of intermediate states.

Species 67. (Mus. Hanley.)

PURPURA BISERIALIS. *Purp. testā oblongo-ovatā, spirā conico-acutā, anfractibus transversim tenuissimē incisostriatis, supernē depressis, biseriatim tuberculatis; pallidē griseā, striis fuscis, fusco irregulariter strigatā, columellā vividē rufā, aperturā fauce pallidā, rufo prope labrum tinctā.*

THE DOUBLE ROW PURPURA. Shell oblong-ovate, spire conically acute, whorls encircled with fine engraved striae, depressed round the upper part, beneath which are two rows of tubercles; pale gray colour, striae brown, irregularly streaked with brown, columella bright red, interior of the aperture pale, tinged with red towards the lip.

DE BLAINVILLE, Nouv. Ann. du Mus. Pl. 11. Fig. 11,
Hab. —?

I venture to refer this shell to *P. biserialis* of De Blainville; it answers with peculiar accuracy to his description, and is quite distinct from any other species of the present monograph.

Species 68. (Mus. Cuming.)

PURPURA SQUAMULOSA. *Purp. testā globoso-ovatā, basem versus attenuatā, spirā brevissimā, depressā; anfractibus supernē rotundatis, liris subtilibus minutē squamulosis undique creberrimē cinctis; albā, columellā et aperturā fauce pallidē violaceis.*

THE FINELY SCALED PURPURA. Shell globosely ovate, attenuated towards the base, spire rather short, depressed; whorls rounded at the upper part, very closely encircled throughout with fine minutely scaled ridges; white, columella and interior of the aperture pale violet.

Hab. Island of Ticao, Philippines (on the reefs at low water); Cuming.

This delicately sculptured species has very much the form of the *P. violacea*, from Taheite, but it is perfectly distinct; the entire surface is encircled with minutely scaled ridges similar in pattern to those of the beautiful little *Murex squamulosus* of Philippi, and the colour of the mouth is a pale violet of a different tint.

Species 69. (Mus. Cuming.)

PURPURA MADREPORARUM. *Purp. testā depresso-ovatā, spirā brevissimā, interdum oculatā; transversim tenuissimē striatā, scabrā; aperturā amplā, marginibus latissimē dilatatis, columellā, plano-depressā; albā, columellā vividē purpureo-violaceā, aperturā fauce purpureo-violaceo partim tinctā.*

THE MADREPORE PURPURA. Shell depressly ovate, spire very short, sometimes concealed; transversely very finely striated, rough; aperture large, margins very widely dilated, columella flatly depressed; white, columella rich purple-violet, interior of the aperture partially stained with purple violet.

SOWERBY, Genera of Shells, *Purpura*.

Purpura monodonta Quoy and Gaimard.

Hab. Eastern Seas (upon madrepores).

I adopt Mr. Sowerby's name for this interesting parasite, first, because he introduced it simultaneously if not prior to that of M. M. Quoy and Gaimard, and secondly because the name assigned to it by those naturalists is a very inappropriate one, there being nothing in the structure of the shell that can be designated a tooth.

Species 70. (Mus. Cuming.)

PURPURA VIOLACEA. *Purp. testā ovatā, crassā, ponderosā, basi attenuatā, subcanaliculatā, spirā, brevissimā; transversim obsoletē striatā, scabrā; albā, columellā et aperturā fauce vividē purpureo-violaceis*

THE VIOLET PURPURA. Shell pyriformly ovate, thick, ponderous, attenuated and somewhat channelled at the base, spire very short, transversely obsoletely striated, rough; white, columella and interior of the aperture rich purple violet.

KIENER, Icon. Coq. viv. p. 77. pl. 19. f. 57.

Murex Neritoideus, Chemnitz (not of Linnæus).

Fusus Neritoideus, Enc. Méth.

Purula Neritoidea, Lamarck.

Purpura Neritoidea, Quoy and Gaimard.

Hab. Taheite (on the reefs at low water); Cuming.

This well-known shell may be easily distinguished from the *Purpura squamulosa*, by its rude structure and deep purple violet colouring.



70



71



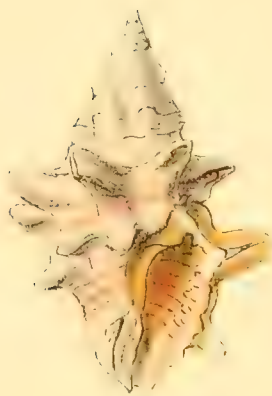
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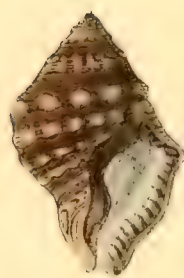
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PURPURA.

PLATE XIII.

Species 71. (Mus. Brit.)

PURPURA QUOYI. *Purp. testā subfusiformi, utrinque productā, anfractibus supernè concavo-depressis, longitudinaliter subtilissimè laminatis, costis lirisque rugosis aut scabrosis cinctis; columellā parvā, labro intus crenato; albidā aut fuscесcente, aperturæ fauce purpureo-fuscā.*

QUOY'S PURPURA. Shell somewhat fusiform, produced at each end, whorls concavely depressed round the upper part, longitudinally very finely laminated, encircled with rough and scabrous ribs and ridges; columella excavated, aperture small, lip crenated within; whitish or light brown, interior of the aperture purple brown. *Purpura rugosa*, Quoy, Zool. Voy. de l'Astrolabe, pl. 38. f. 19 to 21.

Hab. New Zealand.

M. Kiener appears to have confounded this interesting little species with the following.

Species 72. (Mus. Cuming.)

PURPURA SCOBINA. *Purp. testā oblongo-ovatā, anfractibus convexis, liris transversis et longitudinalibus creberrimè clathratis; nigricante-fuscā, liris transversis interdum albis, columellā purpureo-fuscā, aperturæ fauce cærulescente.*

THE FILE PURPURA. Shell oblong-ovate, whorls convex, very closely latticed with transverse and longitudinal ridges; blackish-brown, transverse ridges sometimes white, columella purple-brown, interior of the aperture blueish.

Quoy, Zool. Voy. de l'Astrolabe, pl. 38. f. 12 and 13.

Hab. New Zealand.

An extremely variable species, but one whose different phases exhibit a good specific affinity.

Species 73. (Mus. Cuming.)

PURPURA NUX. *Purp. testā ovatā, crassiusculā, subventricosā, anfractibus convexis, transversim irregulariter multiliratis, lirarum interstitiis laminis decussatis, labro intus dentato; olivaceo-fusco variā, hic illic albigunctatā, columellā et aperturæ fauce albis.*

THE NUT PURPURA. Shell ovate, rather thick, somewhat ventricose, whorls convex, encircled with numerous irregular ridges, the interstices between which are crossed with minute laminæ, lip toothed within; variegated with olive brown, dotted with white, columella and interior of the aperture white.

Hab. — ?

An interesting species, not immediately allied with any hitherto described.

Species 74. (Mus. Brit.)

PURPURA SPIRALIS. *Purp. testā ovatā, tenui, inflatā, costis quinque prominentibus conspicuè spiraliter cinctā, interstitiis longitudinaliter striatis, costis latis, planatis, lævibus, lateribus excavatis; albido-fuscесcente, costis rufo-fuscis.*

THE SPIRAL PURPURA. Shell ovate, thin, inflated, conspicuously spirally encircled with five prominent ribs, smooth and flattened at the summit, excavated at the sides, with the interstices striated longitudinally; whitish-brown, ribs reddish brown.

Purpura trochlea, var. Kiener, Icon. Coq. viv. pl. 28. f. 75 and 75 a.

Hab. — ?

"It is very possible," says M. Deshayes, "that this shell may constitute a species distinct from the *P. cingulata* (*P. trochlea*, Lam)." There cannot, I think, be a doubt of it, it is uniformly larger, more inflated, and has a larger number of ribs,

Species 75. (Mus. Cuming.)

PURPURA SCALARIFORMIS. *Purp. testā acuminato-turritā, anfractibus supernè angulatis, suturis depressis, infra angulum carinatis et striatis, carinis irregularibus, acutis; exclus intusque albā.*

THE SCALARIA-SHAPED PURPURA. Shell acuminate, turreted, whorls angulated round the upper part, depressed at the sutures, keeled and striated beneath the angle, keels irregular, sharp; white within and without.

LAMARCK, Anin. sans vert. (Deshayes' edit.) vol. x. p. 73.

Hab. Juan Fernandez (in rocky places at low water); Cuming.

The sculpture and general tone of this shell so far resembles the *P. galea*, that it has been considered an elongated growth of that species. The *P. deformis* of Lamarck, according to Kiener, is a monstrosity of the *P. galea*; and the *P. brevis* of De Blainville, the young of the same.

October, 1846.

Species 76. (Mus. Cuming.)

PURPURA CINGULATA. *Purp. testâ oblongo-ovatâ, costis tribus aut minoribus spiraliter cingulatâ, costis valdè prominentibus, planatis, lævibus, utrinque excavatis, costarum interstitiis subtilissimè striatis; cinereo-albicante, aperturæ fauce fusco tinctâ.*

THE BELTED PURPURA. Shell oblong-ovate, spirally encircled with three, or fewer, ribs, which are peculiarly prominent, smooth and flattened at the summit, and excavated at the sides, interstices between the ribs very finely striated; ashy-white, interior of the aperture stained with brown.

DESHAYES, Anim. sans vert. vol. x. p. 86. note.

Buccinum cingulatum, Linnæus.

Purpura trochlea, Lamarck.

Hab. Cape of Good Hope.

The prominence and regularity of the ribs impart a peculiar screw-like appearance to the shell, the effect of which is increased by the depression of the sutural portion of the spire.

Species 77. (Mus. Cuming.)

PURPURA AFFINIS. *Purp. testâ recto-fusiformi, crassâ, solidâ, spirâ acutè acuminatâ, anfractibus tuberculis solidis prominentibus biseriatim cinctis, interstitiis striatis; columellâ obsoletè plicatâ; aperturâ parvâ, labro intus dentato; albâ, aperturæ fauce crocato-fuscescente.*

THE ALLIED PURPURA. Shell straightly fusiform, thick, solid, spire sharply acuminated, whorls encircled with two rows of prominent solid tubercles, interstices striated; columella obsoletely plaited, aperture small, lip toothed within; white, interior of the aperture saffron-brown.

Hab. Elizabeth Island, South Seas, (on exposed rocks at half-tide); Cuming.

I have examined several examples of this species, and find it uniformly distinct from the *P. armigera* to which it is so closely allied.

Species 78. (Mus. Cuming.)

PURPURA GIBBOSA. *Purp. testâ, subventricosâ, spirâ brevi, anfractibus concentricè plicato-costatis, costis tumidis, s. bnodosi, transversim subtilissimè et creberrimè carinatis, carinis acutis, irregularibus, minutè squamatis; albâ, violaceo tinctâ, aperturæ fauce vividè violacæâ.*

THE GIBBOUS PURPURA. Shell ovate, somewhat ventricose, spire rather short, whorls concentrically plicately

ribbed, ribs swollen, somewhat nodose, transversely very finely and closely keeled, keels sharp, irregular, minutely scaled; white, tinged, with violet, interior of the aperture deep violet.

A small gibbous species approximating in general character to some of the *Murices*.

Species 79. (Mus. Cuming.)

PURPURA CALLAOENSIS. *Purp. testâ ovatâ, subdepressâ, spirâ brevissimâ; anfractibus lævibus aut obsoletè nodosis, transversim tenuissimè sulcatis, areis inter sulcos minutissimè regulariter striatis; columellâ excavatâ, aperturâ amplâ, labro crenulato; sordidè albâ, fuscescente subindistinctè longitudinaliter undulatâ, columellâ et aperturæ fauce albis.*

THE CALLAO PURPURA. Shell ovate, a little depressed, spire very short; whorls smooth or obsoletely nodose, transversely very finely grooved, areas between the grooves very minutely regularly striated; columella excavated, aperture large, lip crenulated; dull white, rather indistinctly longitudinally festooned with light brown, columella and interior of the aperture white.

GRAY, Spicilegia Zoologica p. 4. pl. 6. f. 11.

Hab. Callao Bay; Hennes, Cuming.

An interesting little species, described some years since by Mr. Gray, of which there are several examples in the British Museum.

Species 80. (Mus. Brit.)

PURPURA JANELLII. *Purp. testâ ovatâ, medio obesâ, basi contractâ, spirâ brevi; anfractibus transversim striatis, supernè declivibus, infra tuberculis rotundatis obtusis seriatim armatis; columellâ arcuatâ, labro intus denticulato et lirato; albidâ, epidermide olivaceo-fuscâ indutâ, columellâ rubro-nigricante, aperturæ fauce cærulescente.*

JANELLE'S PURPURA. Shell ovate, stout in the middle, contracted at the base, spire short; whorls transversely striated, sloping round the top, armed beneath with rows of blunt rounded tubercles; columella arched, lip denticulated and ridged within; whitish, covered by an olive-brown epidermis: columella reddish black, interior of the aperture blueish.

KIENER, Icon. Coq. viv. p. 122. pl. 31. f. 89.

Hab. Payta; Kiener.

A very rare and characteristic species of which there are two specimens in the British Museum.

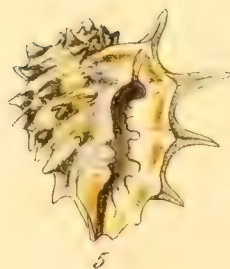
PURPURA.

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MONOGRAPH
OF THE GENUS
R I C I N U L A.

“ These are thy glorious works, Parent of good,
Almighty ! ” — *Milton*.



RICINULA.

PLATE I.

Genus *RICINULA*, Lamarck.

Testa suborbiculari-vel fusiformi-ovata, sæpius tuberculata aut spinosa, spirā nunc brevissimā, depressā, nunc acuminatā; aperturā subangustā, columellā subexcavatā, interdum corrugatā aut dentatā, labro intus dentato, dentibus nodulosis aut pliciformibus, labri margine interdum, autem raro, digitato. Operculum corneum, tenue, semilunare.

Shell somewhat orbicularly or fusiformly ovate, most frequently tuberculated or spined, spire sometimes very short and depressed, sometimes acuminate; aperture rather narrow, columella a little excavated, sometimes wrinkled or toothed, lip toothed within, teeth nodulous or plait-like, edge of the lip sometimes, but rarely, digitated. Operculum horny, thin, semilunar.

In adopting the genus *Ricinula*, I propose to include a much wider range of species than has been hitherto referred to it; namely, that fusiform series distinguished from *Buccinum* and *Purpura* by the nodulous dentition of the inner lip, arranged by M. Kiener as a section of the latter genus, under the significant title of "Les Pourpres semiricinales;" and of which the *Purpura fuscillum* of authors may be regarded as the type. It cannot be disputed that there are species in the genera *Ricinula*, in its limited acceptation, and *Purpura*, in which it is difficult to define any generic difference; as for example, between the *P. hystrix* and the *R. arachnoides*, or between the *P. aperta* and certain varieties of the *R. clathrata*; but the alteration of names in familiar usage should, as far as possible, be avoided. A large proportion of the species I am about to characterize as *Ricinulæ*, have not been hitherto described, and their connection with the *Purpura* proper, is one of such very remote affinity, that I prefer elevating the genus under consideration into one of more importance, to the creation of a new genus, or to the fusion of the whole into one, after the manner of the French naturalists.

The soft parts of the typical species of *Ricinula* differ in no respect from those of *Purpura*, and, in both genera, are furnished with a thin horny operculum.

Species 1. (Mus. Cuming.)

RICINULA ELEGANS. Ricin. testā rotundato-ovatā, basi attenuatā, brevissimā; transversim regulariter spinosā, spinis squamiformibus, prominentibus, marginem versus gradatim longioribus, interstitiis minutissimè et pul-

cherrimè squamatis, columellā labroque intus conspicuè dentatis; albicante, aperturā eburneā, lineā vividè rufā concinnè circumdatā.

THE ELEGANT *RICINULA*. Shell rotundately ovate, attenuated at the base, spire very short; transversely regularly spinous, spines scale-like, prominent, gradually longer towards the margin, interstices very minutely and beautifully scaled, lip and columella conspicuously toothed within; whitish, aperture ivory white, very prettily encircled with a bright red line.

BRODERIP and SOWERBY, Zool. Journ. vol. iv. p. 376.

Beechey's Voyage, Moll. pl. 36. f. 4.

Hab. Lord Hood's Island (on reefs at low water); Cuming.

No one can fail to recognize this very rare and delicate species by the bright red line which encircles the aperture; in other respects it mostly resembles the *R. arachnoides*.

Species 2. (Mus. Cuming.)

RICINULA DIGITATA. Ricin. testā obovatā, peculiariter depressā, spirā brevissimā; transversim obtuso-costatā, minutissimè crispato-squamatā, costis spiram versus nodosis aut tuberculatis, frondibus depresso-palmatis, supernè majoribus, ad marginem desinentibus; albidā aut lutescente, aperturā vividè luteo-aurantiā.

THE FINGERED *RICINULA*. Shell obovate, peculiarly depressed, spire rather short; transversely obtusely ribbed, very minutely crisply scaled, ribs nodose or tuberculated towards the spire, ending on the margin in depressly palmate fronds, the upper of which are the larger; whitish or yellowish, aperture bright yellowish orange.

LAMARCK, Anim. sans vert. (Deshayes edit.) vol. x. p. 50.
Ricinula (Purpura) lobata, De Blainville.

Hab. Lord Hood's Island (on the reefs at low water); Cuming.

Variety β .

Testa fusca, aperturā vividè nigricante-castaneā.

Shell brown, with the aperture bright dark chesnut.

Ricinula (Purpura) lobata, Deshayes.

Hab. Sechelle Islands (on the reefs at low water); Rousseau.

I am sorry to be obliged to differ from two such authorities as M. M. De Blainville and Deshayes in regard to the specific rank of the Sechelle Island variety; there cannot be a doubt, in my estimation, of the immediate

August, 1846.

affinity of the shells here represented; they exhibit no difference except in colour; and I think, with Mr. Sowerby, that they cannot be regarded otherwise than as varieties of one and the same species. The arrangement of synonymes above recorded, show that M. De Blainville erroneously considered the dark variety as the Lamarckian type.

Species 3. (Mus. Cuming.)

RICINULA HORRIDA. *Ricin. testā ovato-globosā, spirā brevissimā, transversim tuberculatā, tuberculis brevibus, squamiformibus, acutis, columellā labroque fortiter dentatis; albidā aut lutescente, tuberculis nigricantibus, aperturā violaceā.*

THE ROUGH RICINULA. Shell ovately globose, spire very short, transversely tuberculated, tubercles short, scale-like, sharp, lip and columella strongly toothed; whitish or yellowish, tubercles blackish, aperture violet.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 47.

Murex neritoideus, Gmelin, (not of Linnæus).

Ricinella violacea, Schumacher.

Hab. Philippine and Society Islands (on the reefs at low water); Cuming.

This well-known species is distinguishable from all others by its black tubercles and violet aperture.

Species 4. (Mus. Cuming.)

RICINULA IODOSTOMA. *Ricin. testā suborbiculari-ovatā, crassā, ponderosā, subdepressā, spirā brevissimā, transversim striatā, et obtusē vel obsoletē costatā, costis ad marginem prominentioribus, aperturā fortiter dentatā, supernè callosā; albicante, costis fusco-nigricantibus, striis intermediis fusciscentibus, aperturā vividè roseo-purpureā.*

THE VIOLET MOUTH RICINULA. Shell somewhat orbicularly ovate, thick, ponderous, rather depressed, spire very short, transversely striated and obtusely, or rather obsoletely, ribbed, ribs more prominent at the margin, aperture strongly toothed, thickened at the upper part; whitish, ribs brownish-black, intermediate striae brown, aperture bright pinkish purple.

LESSON, Magasin de Zoologie, 1842. Moll. pl. 58.

Hab. New Zealand, Lesson; Straits of Macassar; Rohr.

An interesting species, introduced by M. Lesson, and forming a valuable addition to the typical portion of the genus; it may be readily distinguished from the *R. horrida* by the absence of tubercles, in place of which it is encircled with conspicuous dark bands, and the more pinky tinge of the purple which characterizes the aperture.

Species 5. (Mus. Cuming.)

RICINULA ARACHNOIDES. *Ricin. testā obovatā, spirā brevissimā, transversim costatā, costis spinis squamiformibus muricatis, spinis marginem versus longioribus, costarum interstitiis striatis, striis interdum minutissimè squamatis; lutescente, costis albidis, spinis partim vel omnino nigricantibus, aperturā interdum maculis luteis circumdatā.*

THE SPIDER-LIKE RICINULA. Shell obovate, spire very short, transversely ribbed, ribs muricated with scale-like spines, spines longer towards the margin, interstices between the ribs striated, striae sometimes minutely scaled; yellowish, ribs white, spines partially or entirely blackish, aperture sometimes encircled with yellow spots.

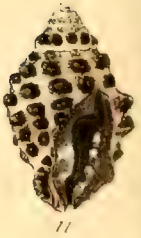
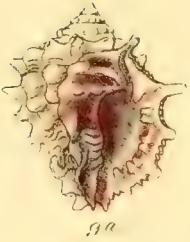
LAMARCK, Anim. sans vert. (Deshayes edit.) vol. x. p. 49.

Murex ricinus, Linnæus.

Unspotted variety, *Ricinula albolabris*, De Blainville.

Hab. Philippine and Society Islands; Cuming.

Here again I must be allowed to differ from M. M. De Blainville and Deshayes. There can be no doubt of the specific affinity between *R. albolabris* of the former, and the *R. arachnoides* of Lamarck; the "striae subcailleuses" to which M. Deshayes refers, as distinguishing the former, are but a modification of growth, the striae being sometimes smooth, sometimes, and especially in young individuals, developed in minute scales, characteristic of the normal state. The spines of this species are more or less coloured black, sometimes altogether white, and the presence or absence of yellow spots at the aperture is subject to the same law of variety.



RICINULA.

PLATE II.

Species 6. (Mus. Cuming.)

RICINULA MUTICA. *Ricin. testā ovato-globosā, crassissimā, basi subattenuatā, spirā brevissimā, obtusā; transversim inciso-striatā, muticā, columellā subexcavatā, lævigatā, labro intus conspicuè dentato; fusco-nigricante, aperturā albā, aut pallidè violaceo-albā.*

THE SMOOTH RICINULA. Shell ovately globose, very thick, a little attenuated at the base, spire very short, obtuse; transversely deeply striated, smooth, columella slightly excavated, smooth, lip conspicuously toothed within; brownish black, aperture white, or pale violet-tinged white.

LAMARCK, Anim. sans vert. (Deshayes edit.) vol. x. p. 51. Testa junior, *Ricinula pisolina*, Lamarck.

Hab. Mozambique (on coral reefs at low water); Hennah.

A very distinctly characterized species, and one that is rarely met with; the *R. pisolina* of Lamarck is referred to the young state, on the testimony of M. Kiener.

Species 7. (Mus. Cuming.)

RICINULA PORPHYROSTOMA. *Ricin. testā oblongo-ovatā, utrinque attenuatā, spirā subprominente, acutā; longitudinaliter concentricè costatā, transversim peculiariter liriatā, liris numerosis angustis, confertis, inter costas profundè excavatis, aperturā utrinque denticulatā; livido-olivaceā, liris cinereo-albicantibus, aperturā vividè purpureo-laccā.*

THE PURPLE-MOUTH RICINULA. Shell oblong-ovate, attenuated at both ends, spire rather prominent, sharp; longitudinally concentrically ribbed, transversely peculiarly ridged, ridges numerous, narrow, close-set, deeply excavated between the ribs, aperture denticulated on both sides; livid olive colour, ridges ashy-white, aperture deep purple-lake.

REEVE, Pro. Zool. Soc., 1846.

Hab. Marquesas Islands (on the reefs at low water); Rohr.

An interesting new species distinguished by the erect character of the transverse ridges, especially across the interstices between the ribs, which, however, become somewhat obsolete with age; the rich purple-lake colouring of the aperture is also worthy of notice.

Species 8. (Mus. Cuming.)

RICINULA MENDICARIA. *Ricin. testa ovatā, medio obesā,*

utrinque subattenuatā, anfractibus basi subindistinctè liratis, supernè vel lævigatis, vel longitudinaliter obsolete nodoso-costatis, columellā supernè excavatā, labro intus medio denticulato; plerumque atro luteoque alternatim transversim conspicuè tæniatā, interdum atrā, tæniā luteā unicā angustā cinctā, aperturā cinnamomeo-purpureā.

THE PATCH-WORK RICINULA. Shell ovate, stout in the middle, attenuated at each end, whorls rather indistinctly ridged at the base, either smooth or longitudinally obsolete nodosely ribbed above, columella excavated at the upper part, lip denticulated within in the middle; generally alternately filleted with black and yellow, sometimes black, encircled by a single narrow yellow fillet, aperture cinnamon-purple.

Columbella mendicaria, Lamarck.

Hab. Philippine Islands; Cuming. Zanzibar (for the dark single-zoned variety); Thorne.

The well-known *Columbella mendicaria* of Lamarck, which has been already discarded from that genus by Mr. Sow-erby, in his recent admirable monograph in the 'Thesaurus Conchyliorum', belongs to that interesting group of species, distinguished by M. Kiener under the characteristic title of "Les Pourpres semi-ricinules", and which I propose to include under the Lamarckian head of *Ricinula*.

Species 9. (Fig. *a* and *b* Mus. Cuming.)

RICINULA CLATHRATA. *Ricin. testā rotundato-ovatā, spirā breviusculā; longitudinaliter crebricaricosā, varicibus costis spiniferis decussatis, spinis squamiformibus, prominentibus, marginem versus longioribus, interstitiis striatis, striis minutissimè squamatis; columellā supernè subexcavatā, infra plicato-rugosā; extus ferrugineo-fuscā et albā, intus cæruleo-violaceā.*

THE LATTICED RICINULA. Shell rotundately ovate, spire rather short; longitudinally closely varicose, varices crossed with spiniferous ribs, spines scale-like, prominent, longer towards the margin, interstices striated, striae very minutely scaled; columella a little excavated at the upper part, plicately wrinkled beneath; exterior white and rusty brown, interior blueish violet.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 49.

Hab. Elizabeth Island (on the reefs at low water); Cuming Testa junior *Ricinula miticula*, Lamarck.

August, 1846.

Variety β . (Fig. 9. a.)

Testa parva, spinis brevioribus; albidula, intus vividè purpureo-lacca.

Shell small, with the spines rather short; white, interior rich purple-lake.

Hab. Island of Annaa (on the reefs at low water); Cuming.

The very beautiful and characteristic variety of this species, represented at fig. 9 a, does not appear to have been hitherto noticed.

Species 10. (Mus. Cuming.)

RICINULA MORUS. *Ricin. testā ovatā, crassā, obesā, spirā breviusculā, transversim costatā, costis tuberculatis, lirā angustā, interstitiis utrinque minutissimè squamatis, interveniente; cærulescente-albā, tuberculis plerumque anthracinis, aperturā vividè violacēā.*

THE MULBERRY RICINULA. Shell ovate, thick, stout, spire rather short, transversely ribbed, ribs tuberculated, and a narrow ridge running between them with the interstices very minutely scaled; blueish white, tubercles generally coal-black, aperture rich violet.

LAMARCK, Anim. sans vert. (Deshayes' edit.); vol. x. p. 51. *Purpura sphaeridia*, Duclos.

Hab. Lord Hood's Island (on the reefs at low water); Cuming.

The *Ricinula morus* is sometimes entirely white, though of much more common occurrence with the tubercles black. The *R. aspera* which M. Kiener has confounded with this species, is distinct, as M. Deshayes affirms, but it requires an acute eye to detect the difference.

Species 11. (Mus. Cuming.)

RICINULA TUBERCLATA. *Ricin. testā oblongo-ovatā, spirā breviusculā; transversim seriatim tuberculatā, tuberculis subquadratis, interstitiis subtiliter inciso-striatis; cæruleo-albā, tuberculis anthracinis, interdum omnino anthracinā, aperturā violaceo-nigricante, denticulis albis.*

THE TUBERCLED RICINULA. Shell oblong-ovate, spire rather short; encircled with rows of tubercles, tubercles somewhat square, interstices finely deeply striated; blueish-white, tubercles coal-black, sometimes altogether coal-black, aperture violet-black, teeth white.

DE BLAINVILLE, Nouv. Ann. du Mus. pl. 9. f. 3.

Eadem. *Purpura marginalba*, De Blainville.

Purpura granulata, Duclos.

Hab. Lord Hood and Elizabeth Islands (on the reefs at low water); Cuming.

The leading feature of distinction between this and the preceding species, is, that in the former the interstices be-

tween the tubercles are simply engraved with striæ, whilst in the latter, they are characterized by a distinct ridge, the hollow on either side of which is crossed at frequent intervals by minute scales; the tubercles are also uniformly larger and more obtuse.

Species 12. (Mus. Cuming.)

RICINULA CHRYSOSTOMA. *Ricin. testā oblongā, spirā nunc abbreviatā; transversim undique inciso-striatā, striis subdistantibus, longitudinaliter varicosā, varicibus squamis vel obtusis vel spiniferis et erectis ornatis; ferrugineo-fuscā, striis saturatioribus, zonis albis interruptis interdum cinctā, aperturā violacēā interdum aurantiā.*

THE GOLDEN-MOUTH RICINULA. Shell oblong, spire sometimes acuminate, sometimes abbreviated; transversely deeply striated throughout, striæ rather distant, longitudinally varicose, varices ornamented with scales which are either obtuse or spiniferous; rusty brown, striæ darker, sometimes encircled with interrupted white zones, aperture violet, sometimes orange.

DESHAYES, Magasin de Zool., 1844. Moll. pl. 86.

Hab. Islands of Bohol and Ticao, Philippines (on the reefs at low water); Cuming.

An extremely variable species in form, sculpture, and colour; the shell is sometimes elongated, sometimes short, and the squamate varices above described in the typical specimens become modified into mere noduled ridges. The colour of the aperture varies from purple-violet to bright golden-yellow, as in the specimen described and figured by M. Deshayes.

Species 13. (Mus. Cuming.)

RICINULA ASPERA. *Ricin. testā obtusè ovatā, spirā brevi; transversim et longitudinaliter forticostatā, lirā unicā obesā, vel duabus angustis utrinque minutissimè squamatis, inter costas cingulatā; albidā, costarum longitudinalium latere sinistro fusco-nigricante, aperturā vividè violacēā.*

THE ROUGH RICINULA. Shell obtusely ovate, spire short; transversely and longitudinally strongly ribbed, encircled between the ribs with a single stout ridge or two narrow ones; whitish, left side of the longitudinal ribs brownish-black, aperture bright purple.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 51.

Hab. Island of Masbate, Philippines (on the reefs at low water); Cuming.

The sculpture of this shell is very similar to that of the *R. morus*, and M. Kiener has published it as a variety of that species; I am, however, inclined to think with M. Deshayes that it is distinct, there is a peculiarity in the form, painting, and general aspect, by which it may always be recognised.



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18a



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18b



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20a



20b



21

RICINULA.

PLATE III.

Species 14. (Mus. Cuming.)

RICINULA SIDEREA. *Ricin. testâ fusiformi-ovatâ, basi subcontractâ, transversim striatâ, longitudinaliter subobsoletè nodoso-costatâ; albâ, maculis parvis rubido-fuscis quadratis hic illic irregulariter pictâ.*

THE STARRY RICINULA. Shell fusiformly ovate, gibbous in the middle, a little contracted at the base, transversely striated, longitudinally rather obsoletely nodosely ribbed; white, irregularly painted here and there with reddish-brown square spots.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Burias and Masbate, Philippines (on the reefs and under stones at low water); Cuming.

A pure white shell miscellaneously sprinkled with conspicuous small square reddish-brown spots.

Species 15. (Mus. Cuming.)

RICINULA BELLA. *Ricin. testâ subcylindræo-fusiformi, utrinque attenuatâ, basi contractâ et paululum recurvâ, longitudinaliter concentricè costatâ, costis subobtusis, confertis, transversim liratâ, liris angustis, interstitiis striatis; pallidè roseâ, fasciis duabus castaneis, liris costas super roseis, cingulatâ.*

THE PRETTY RICINULA. Shell cylindrically fusiform, attenuated at both ends, contracted and a little recurved at the base, longitudinally concentrically ribbed, ribs rather obtuse, close-set, transversely ridged, ridges narrow, interstices striated; pale rose, encircled by two chesnut bands, on which the ridges are rose on crossing the ribs.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Capul, Philippines (on the reefs at low water); Cuming.

An extremely pretty species of a pale rose colour, encircled with two rather broad bright chesnut bands, each band having two ridges passing through them, exhibiting a particularly neat appearance, from their being light on crossing the ribs.

Species 16. (Mus. Cuming.)

RICINULA FUNICULATA. *Ricin. testâ oblongo-ovatâ, obliquè costatâ, costis latis, solidis, subobscuris, transversim alternatim liratâ et lineatâ, liris obtusè nodosis;*

cæruleo-albicante, liris lineisque aterrimis, aperturâ vividè violaceâ.

THE CORDED RICINULA. Shell oblong-ovate, obliquely ribbed, ribs broad, solid, rather obscure, transversely alternately ridged and lineated, ridges obtusely nodose; blueish white, ridges and lines jet black, aperture deep violet.

REEVE, Pro. Zool. Soc., 1846.

Hab. — ?

A blueish white shell encircled with conspicuous black ridges, the lower of which have a fine cord running between them; and with a rich violet mouth.

Species 17. (Mus. Cuming.)

RICINULA HEPTAGONALIS. *Ricin. testâ fusiformi-ovatâ, basi paululum recurvâ, anfractibus transversim liris et squamistriatis, supernè angulatis, longitudinaliter obtusè costatis, liris costas super compresso-nodosis; fusco-albicante, nigricante-fusco tinctâ et fasciatâ, aperturâ albâ.*

THE SEVEN-SIDED RICINULA. Shell fusiformly ovate, a little recurved at the base, whorls encircled with ridges and squamate striæ, angulated round the upper part, longitudinally obtusely ribbed, ridges compressly noduled over the ribs; brownish-white, stained and banded with blackish-brown, aperture white.

REEVE, Pro. Zool. Soc., 1846.

Hab. Panama (under stones at low water); Cuming.

An extremely interesting species, though scarcely coming within the generic range of *Ricinula*; it may, however, be readily distinguished as such by the characteristic row of nodulous denticles within the lip.

Species 18. (Fig. a and b, Mus. Cuming.)

RICINULA CONCATENATA. *Ricin. testâ subfusiformi-ovatâ, anfractibus supernè leviter concavis, transversim seriatim tuberculatis, tuberculis confertis subquadratis et mucronatis, interstitiis striatis, striis minutissimè squamatis; lutescente-albâ, tuberculis ferrugineo-nigricantibus, aperturâ purpureo-violaceâ, vel aurantio-rufâ.*

THE ENCHAINED RICINULA. Shell somewhat fusiformly ovate, whorls slightly concave round the upper part,

transversely ornamented with rows of tubercles, which are close-set somewhat square and pointed, interstices striated, striæ very minutely scaled; yellowish-white, tubercles rusty-black, aperture purple-violet or orange-red.

Murex concatenatus, Lamarck, Anim. sans vert. vol. ix. p. 599.

Purpurea fragum, and *concatenata*, De Blainville.

Hab. Swan Point, North Australia (under stones at low water).

The species above cited from De Blainville's monograph, are evidently varieties of the same; I have specimens of each before me from the collection of Mr. Cuming, and can observe no other difference than a change of colour in the aperture.

Species 19. (Mus. Cuming.)

RICINULA SPECTRUM. *Ricin. testâ oblongo-ovatâ, spirâ acuminatâ, longitudinaliter obliquè costatâ, costis sub-obtusis, tuberculatis, tuberculis compressis, interstitiis striatis; intus extusque albâ.*

THE SPECTRE RICINULA. Shell oblong-ovate, spire acuminate, longitudinally obliquely ribbed, ribs rather obtuse, tubercled, tubercles compressed, interstices striated; pure white within and without.

REEVE, Pro. Zool. Soc., 1846.

Hab. Isle of Capul, Philippines (on the reefs at low water); Cuming.

A stout solid tuberculated shell, which appears to be naturally colourless, the shell here represented being in the finest possible condition.

Species 20. (Mus. Cuming.)

RICINULA PULCHRA. *Ricin. testâ cylindraco-ovatâ, medio obesâ, utrinque attenuatâ, basi recurvâ, anfractibus rotundatis, concentricè crebricostatis, transversim liris confertis, costas super compresso-nodulatis;*

luteo-aurantiâ, lilarum interstitiis fusco-lineatis, aperturâ, apice basique pulcherrimè roseis.

THE BEAUTIFUL RICINULA. Shell cylindrically ovate, stout in the middle, attenuated at both ends, recurved at the base; whorls rounded, concentrically closely ribbed, transversely ridged, ridges close-set, compressly noded across the ribs; yellowish orange, interstices between the ridges lineated with brown, aperture, base, and apex, prettily stained with pink.

REEVE, Pro. Zool. Soc., 1846.

Hab. Island of Capul, Philippines (on the reefs at low water); Cuming.

Both the sculpture and colouring of this species are developed with peculiar neatness; the former consists of a regular concentric succession of compressed nodules, ranging somewhat obliquely, the latter of a uniform yellow or light orange brown, encircled in the interspaces of the ridges by a fine cord of a darker brown, whilst the base, apex, and aperture, are either white, or delicately pink.

Species 21. (Mus. Cuming.)

RICINULA CHAIDEA. *Ricin. testâ ovatâ, crassâ, ponderosâ, spirâ subacuminatâ, anfractibus tumidiusculis, obliquè concentricè costatis, costis rudis, obtusè tuberculatis, transversim sulcatis; albidâ aut lutescente, aperturâ albâ.*

THE CONSUMED RICINULA. Shell ovate, thick, ponderous, spire a little acuminate, whorls rather swollen, obliquely concentrically ribbed, ribs rude, obtusely tuberculated, transversely grooved; whitish or yellowish, aperture white.

Purpura chaidea, Duclos, Annales, Sci. Nat. 1832.

Purpura Nassoides, Quoy and Gaimard.

Hab. Island of Masbate, Philippines (on the reefs at low water); Cuming.

A short stout ponderous shell, having very much the aspect of a *Nassa*.



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34

RICINULA.

PLATE IV.

Species 22. (Mus. Cuming.)

RICINULA CARBONARIA. *Ricin. testâ ovatâ, utrinque attenuatâ, transversim striatâ, longitudinaliter fortiter costatâ, costis distantibus, liris transversis decussatis; nigerrimo variâ, aperturæ fauce cærulescente-albâ.*

THE COAL-BLACK RICINULA. Shell ovate, attenuated at both ends, transversely striated, longitudinally strongly ribbed, ribs distant, crossed with transverse ridges; variegated with jet black, interior of the aperture blueish-white.

Hab. — ?

Mainly distinguished by its gibbous growth, and the stout swollen character of the ribs.

Species 23. (Mus. Cuming.)

RICINULA ALVEOLATA. *Ricin. testâ subfusiformi, longitudinaliter conspicuè costatâ, costis sulcis transversis decussatis; lutescente-albâ, costis rufo-fusco pulcherrimè tessellatis.*

THE CHECKERED RICINULA. Shell somewhat fusiform, longitudinally conspicuously ribbed, ribs crossed with transverse grooves; yellowish white, ribs beautifully tessellated with red-brown.

Purpura alveolata, Kiener, Icon. coq. viv. p. 42. pl. 9. f. 23.

Hab. Panama; Cuming.

The ribs of this pretty species have a kind of beaded appearance.

Species 24. (Mus. Cuming.)

RICINULA LAUTA. *Ricin. testâ subfusiformi, medio gibbosiusculâ, solidâ, longitudinaliter costatâ, costis sulcis transversis decussatis; cærulescente-albâ, costis nigro minioque alternatim vividè pictis; columellâ labroque intus purpureo-rufis.*

THE GAY RICINULA. Shell somewhat fusiform, rather gibbous in the middle, solid, longitudinally ribbed, ribs crossed with transverse grooves; blueish white, alternately brightly painted with black and vermillion, lip and columella purple-red.

Hab. — ?

The colouring of the ribs exhibits a striking contrast.

Species 25. (Mus. Cuming.)

RICINULA ELONGATA. *Ricin. testâ fusiformi, spirâ acuminatâ, anfractibus medio angulatis, longitudinaliter costatis, costis ad angulum nodosis, liris transversis decussatis, interstitiis peculiariter cavernosis; extus intusque aurantio-lacteis.*

THE ELONGATED RICINULA. Shell fusiform, spire acuminate, whorls angulated in the middle, longitudinally ribbed, ribs nodose at the angle, crossed with transverse ridges, the interstices being peculiarly cavernous; orange cream-colour within and without.

Purpura elongata, De Blainville.

Hab. Island of Burias Philippines (under stones at low water); Cuming.

Characterized by the cavernous excavations between the ridges.

Species 26. (Mus. Cuming.)

RICINULA DEALBATA. *Ricin. testâ ovatâ, solidiusculâ, transversim striatâ et seriatim tenuinodosâ, striis incis, subobscure punctatis; extus intusque albâ.*

THE BLEACHED RICINULA. Shell ovate, rather solid, transversely striated and finely noded, striæ engraved, somewhat obscurely punctured; white within and without.

Hab. — ?

Encircled with fine nodules and engraved striæ in a manner somewhat peculiar

Species 27. (Mus. Cuming.)

RICINULA ELATA. *Ricin. testâ ovatâ, crassâ, solidâ, longitudinaliter plicato-costatâ, costis subobscuris, tuberculis echinatis seriatim armatis, extus intusque albâ.*

THE ELEVATED RICINULA. Shell ovate, thick, solid, longitudinally plicately ribbed, ribs somewhat obscure, armed with rows of prickly tubercles; white within and without.

Purpura elata, De Blainville, Nouv. Ann. du mus. pl. 11.f. 1.

Hab. New Holland.

Some of the prickly tubercles which characterize this species, have a faint indication of brown painting upon them.

Species 28. (Mus. Cuming).

RICINULA FISCELLUM. *Ricin. testā ovatā, spirā acutā, anfractibus supernè subangulatis, ad angulum compresso-nodosis, liris angustis minutè squamatis undique creberrimè cingulatis; albidā, liris purpureo-atris, columellā et aperturæ fauce purpureo-violaceis.*

THE LITTLE BASKET RICINULA. Shell ovate, spire sharp, whorls somewhat angulated round the upper part, compressly noded at the angle, very closely encircled throughout with fine minutely scaled ridges; whitish, ridges purple-black, columella and interior of the aperture purple violet.

Murex fiscellum. Chemnitz, Conch. Cab. vol. x. pl. 160. f. 1524-5.

Murex margariticola. Broderip.

Hab. Australia and the Pacific Islands.

It will be seen on reference to genus *Murex* of this work, that a most unhappy state of confusion has attended this species on the part of Mr. Broderip, Mr. Sowerby, and myself. Named *Murex margariticola* by Mr. Broderip from the circumstance of Mr. Cuming having found it adhering to the Pearl Oyster (Conch. Icon. *Murex* Sp. 178.), another shell was fixed upon by Mr. Sowerby, and adopted by myself, as representing the *M. fiscellum* of Chemnitz (Conch. Icon. *Murex* Sp. 124.). The former is however the true *M. fiscellum*, and the latter an extremely variable species, again described by me in a different state under the name of *M. decussatus* (Conch. Icon. *Murex* Sp. 153); though introduced by Mr. Sowerby also in different states under the names of *M. violacea* and *Ricinuloides*, which he afterwards cancelled.

It is determined beyond doubt that the *Murex margariticola* of Broderip, of which the specimen here figured is a fine large tubercled variety, is the *Murex fiscellum*; it only remains to enquire of M. Kiener whether the shell mistaken for it, and which has received so many names in different states, is not the *Murex fimbriatus* of Lamarck.

Species 29. (Mus. Cuming.)

RICINULA FORTICOSTATA, *Ricin testā ovatā, medio gibbosā,*

longitudinaliter conspicuè costatā, costis fortibus, valdè prominentibus, sulcis decussatis; albidā, costis fuscis liris decussantibus albidis.

THE STRONG-RIBBED RICINULA. Shell ovate, gibbous in the middle, longitudinally conspicuously ribbed, ribs strong, very prominent, crossed with grooves, whitish, ribs brown, the cross ridges white.

Hab. —?

The prominent character of the ribs, coupled with their conspicuous style of painting, give an appearance to the shell which is very characteristic.

Species 30. (Mus. Cuming.)

RICINULA ASTRICATA. *Ricin. testā ovatā, medio obesā, solidā, utrinque attenuatā, longitudinaliter plicato-costatā; lutescente-albā, liris transversis angustis fuscis undique peculiariter astrictā.*

THE CORDED RICINULA. Shell ovate, stout in the middle, solid, attenuated at both ends, longitudinally plicately ribbed; yellowish-white peculiarly corded throughout with brown narrow transverse ridges.

Hab. —?

Easily distinguished by the fine dark brown cord-like ridges with which it is encircled throughout.

Species 31. (Mus. Metcalfe).

RICINULA OCHROSTOMA. *Ricin. testā ovatā, crassā, concentricè plicato-costatā, costis liris nodosis decussatis, interstitiis minutè squamatis; albā, aperturæ fauce croceo-aurantiā.*

THE YELLOW MOUTH RICINULA. Shell ovate, thick, concentrically plicately ribbed, ribs crossed with noded ridges, the interstices between which are minutely scaled; white, interior of the aperture saffron-orange.

DE BLAINVILLE, (fide Kiener). Icon. Coq. viv. p. 44. pl. 10. f. 29.

Hab. —?

A solid sharply tubercled shell, having the areas between the ribs finely scaled.



RICINULA.

PLATE V.

(Specimens magnified to twice their natural length.)

Species 32. (Mus. Cuming.)

RICINULA CONTRACTA. *Ricin. testā subfusiformi-ovatā, utrinque attenuatā, basi contractā, longitudinaliter oblique plicato-costatā, transversim liratā et striatā; luteo-fuscescente, aperturæ fauce albā.*

THE CONTRACTED RICINULA. Shell fusiformly ovate, attenuated at both ends, contracted at the base, longitudinally obliquely plicately ribbed, transversely ridged and striated; yellowish brown, interior of the aperture white.

Hab. Panama, and St. Elena, West Columbia (under stones); Cuming.

Rather more than usually produced and contracted at the base.

Species 33. (Mus. Cuming.)

RICINULA ZONATA. *Ricin. testā abbreviato-ovatā, solidā, utrinque longitudinaliter nodoso-plicatā; albā, zonis cæruleo-nigris pulcherrimè cingulatā, columellā labrique margine interno lacco-purpureis.*

THE ZONED RICINULA. Shell shortly ovate, solid, attenuated at both ends, longitudinally nodosely plicated throughout; white, very prettily encircled with blue-black zones, columella and inner edge of the lip lake-purple.

Hab. Charles Island, Gallapagos (under stones at low water); Cuming.

Easily distinguished by the marked style of its painting.

Species 34. (Mus. Cuming.)

RICINULA OCELLATA. *Ricin. testā ovatā, ventricosā, undique subtilissimè cancellatā, anfractibus supernè angulatis, longitudinaliter costatis, costis fortibus, distantibus, compresso-tuberculatis; albidā, lineis nigris, costas super ocellatis, cingulatā.*

THE OCELLATED RICINULA. Shell ovate, ventricose, very finely cancellated throughout; whorls angulated round the upper part, longitudinally ribbed, ribs strong, distant, compressly tubercled; whitish, encircled with black lines, which are ocellated on crossing the ribs.

Hab. — ?

The detail of sculpture and disposition of colour are extremely characteristic in this species.

Species 35. (Mus. Cuming.)

RICINULA CONCINNA. *Ricin. testā subfusiformi-ovatā, basi contractā, spirā acuminatā; anfractibus concentricè plicato-costatis, costis tenuissimè nodiferis; albā, fasciis fuscis, nodis albis, conspicuè cinctā, labri limbo aurantioryfo.*

THE PRETTY RICINULA. Shell somewhat fusiform, ovate, contracted at the base, spire acuminate; whorls concentrically flatly ribbed, ribs very finely noded; white, conspicuously encircled with brown bands, in which the nodules are white, edge of the lip orange-red.

Hab. Cagayan, Island of Mindanao, Philippines (under stones at low water); Cuming.

Alternately encircled with brown and white bands, in the former of which the nodules are white, and have a very striking appearance.

Species 36. (Mus. Cuming.)

RICINULA HISTRIO. *Ricin. testā ovatā, medio gibbosā et tuberculatā, transversim subtilissimè striatā et obtusoliratā; luteā, lineis rufescentibus, maculisque nigris cingulatā et variegatā, columellā labrique margine interno lacco-purpureis.*

THE HARLEQUIN RICINULA. Shell ovate, gibbous and tuberculated in the middle, transversely very finely striated and obtusely ridged; yellowish, encircled and variegated with faint red lines and conspicuous black spots, columella and inner edge of the lip lake-purple.

Hab. Island of Burias, Philippines (under stones at low water); Cuming.

A stout hump-backed shell, strongly tuberculated, and strikingly variegated in colour.

Species 37. (Mus. Adamson.)

RICINULA IOSTOMA. *Ricin. testā ovatā subobesā, longitudinaliter concentricè plicato-costatā, costis nodulis obtusis decussatis; albidā, costarum nodulis atris, columellā et aperturæ fauce violaceis.*

THE VIOLET-MOUTH RICINULA. Shell ovate, rather stout, longitudinally concentrically plicately ribbed, ribs crossed with obtuse nodules; whitish, nodules of the

September, 1846.

ribs jet black, columella and interior of the aperture violet.

Hab. — ?

Distinguished by its violet mouth and the concentric rows of black nodules.

Species 38. (Mus. Cuming).

RICINULA CAVERNOSA. *Ricin. testā ovatā, gibbosā, costis fortibus longitudinalibus lirisque compressis transversis conspicuè clathratā, areis interstitialibus subexcavatis; albā, areis medianis rufo-fuscis, columellā et aperturā fauce croceis.*

THE CAVERNOUS RICINULA. Shell ovate, gibbous, conspicuously latticed with strong longitudinal ribs, and transverse ridges, interstitial areas rather excavated; white, the middle row of areas red-brown, columella and interior of the aperture saffron yellow.

Hab. Island of Burias, Philippines (on the reefs at low water); Cuming.

A remarkable species very accurately represented on an enlarged scale in the accompanying plate.

Species 39. (Mus. Cuming).

RICINULA MURICATA. *Ricin. testā ovatā, spirā acutā, anfractibus supernè concavo-depressis, infra conspicuè muricato-tuberculatis; intus extusque albā.*

THE PRICKLY RICINULA. Shell ovate, spire sharp, whorls concavely depressed round the upper part, conspicuously prickly tubercled beneath; white within and without.

Hab. — ?

Distinguished by its sharp prickly sculpture.

Species 40. (Mus. Cuming).

RICINULA CROCOSTOMA. *Ricin. testā subpyriformi-ovatā, medio gibbosā, anfractibus supernè depressis, longitudinaliter nodoso-costatis, costis subdistantibus, interstitiis lœvibus; lutescente, costis nigerrimo-fuscis, columellā labrique margine interno rufo-croceis.*

THE SAFFRON-MOUTH RICINULA. Shell pyriformly ovate,

gibbous in the middle, whorls depressed round the upper part, longitudinally nodosely ribbed, ribs rather distant, interstices smooth; yellowish, ribs very dark brown, columella and inner edge of the lip reddish saffron.

Hab. Isle of Capul, Philippines (on the reefs at low water); Cuming.

Very characteristic both in form and colouring.

Species 41. (Mus. Cuming).

RICINULA TRIFASCIATA. *Ricin. testā ovatā, crassā, solidā, spirā acutā; longitudinaliter nodoso-costatā, aperturā angustā; albā, fasciis tribus cæruleo-atris conspicuiis cingulatā; columellā labrique margine interno lacco-purpureis.*

THE THREE-BANDED RICINULA. Shell ovate, thick, solid, spire sharp, longitudinally nodosely ribbed, aperture narrow; white, encircled with three conspicuous blue-black bands; columella and inner edge of the lip lake-purple.

Hab. Island of Bohol, Philippines (on stones at low water); Cuming.

Resembling the *R. zonata* somewhat in its style of painting, but quite distinct on comparison.

Species 42. (Mus. Cuming).

RICINULA TURBINELLA. *Ricin. testā ovatā, spirā acuminatā, transversim tenuissimè striatā, et liratā, anfractibus supernè declivibus, medio nodulosis; fusconigricante, nodulorum serie medianā albā.*

THE LITTLE TOP RICINULA. Shell ovate, spire acuminate, transversely very finely striated and ridged, whorls sloping round the upper part, nodulous in the middle; brownish black, middle row of nodules white.

Purpura turbinella, Kiener, Icon. Coq. viv. p. 29. pl. 9. f. 25.

Hab. — ?

This appears to me to be identical with *M. Kiener's Purpura turbinella*.



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RICINULA.

PLATE VI.

Species 43. (Mus. Cuming.)

RICINULA PARVA. *Ricin. testâ subpyramidali-ovatâ, liris nodulos longitudinalibus et transversis decussatâ, aperturâ parvâ; albidâ, nodulorum seriebus alternatim aurantio-rufis et nigris.*

THE SMALL RICINULA. Shell somewhat pyramidally ovate, crossed with nodulous longitudinal and transverse ridges, aperture small; whitish, rows of nodules alternately orange-red and black.

Hab. Island of Luzon, Philippines (under stones at low water); Cuming.

The smallest of the group hitherto observed.

Species 44. (Mus. Cuming.)

RICINULA DEFORMIS. *Ricin. testâ ovatâ, basi attenuatâ, spirâ peculiariter abbreviatâ, longitudinaliter plicatâ, transversim nodoso-liratâ, labro incrassato; liris transversis interstitiisque alternatim rufescente-luteis et fuscis.*

THE DEFORMED RICINULA. Shell ovate, attenuated at the base, spire peculiarly shortened; longitudinally plicated, transversely nodosely ridged, lip thickened; transverse ridges and interstices alternately reddish yellow and brown.

Hab. — ?

Peculiarly characterized by the depressed obesity of the spire.

Species 45. (Mus. Cuming.)

RICINULA EXIMIA. *Ricin. testâ fusiformi, spirâ acuminatâ; anfractibus rotundatis, concentricè tenuicostatis, liris subtilibus eleganter cancellatis; lutescente-albâ, liris inter costas seriatim fusciscentibus.*

THE DELICATE RICINULA. Shell fusiform, spire acuminate, whorls rounded, concentrically finely ribbed, elegantly cancellated with delicate ridges; yellowish white, ridges brown in zones between the ribs.

Hab. Island of Corrigidor, Bay of Manila (among coarse sand at the depth of six fathoms); Cuming.

A species of very elaborate sculpture.

Species 46. (Mus. Cuming.)

RICINULA ROSEA. *Ricin. testâ ovatâ, basi productâ, spirâ peculiariter abbreviatâ; anfractibus longitudinaliter nodoso-costatis, labro incrassato, aperturâ parvâ; rosaceâ, fusco zonatâ.*

THE ROSE RICINULA. Shell ovate, produced at the base, spire peculiarly shortened; whorls longitudinally nodosely ribbed, lip thickened, aperture small; rose-colour, zoned with brown.

Hab. Island of Masbate (in sandy mud at the depth of five fathoms); Cuming.

Somewhat akin in form to the *R. deformis*.

Species 47. (Mus. Cuming.)

RICINULA ARMILLATA. *Ricin. testâ pyramidali-ovatâ, spirâ acutè acuminatâ; anfractibus carinâ unicâ nodosâ supernè cingulatis, infra nodoso-costatis, interstitiis lævibus; albidâ, nodis zonatim nigris et albis, carinæ nodis lutescentibus.*

THE BEADED RICINULA. Shell pyramidally ovate, spire sharply acuminate, whorls encircled round the upper part with a single nodulous keel, nodosely ribbed beneath, interstices smooth; whitish, nodules alternately black and white in zones, nodules of the keel yellowish.

Hab. Island of Ticao, Philippines (under stones at low water); Cuming.

A prettily beaded shell with rather a sombre arrangement of colours.

Species 48. (Mus. Cuming.)

RICINULA BICATENATA. *Ricin. testâ subtrigono-fusiformi, longitudinaliter costatâ, transversim tenuissimè lirâtâ, liris duabus centralibus prominentioribus muricato-squamatis; fuscâ, liris prominentibus centralibus albis.*

THE DOUBLE-CHAINED RICINULA. Shell somewhat triangularly fusiform, longitudinally ribbed, transversely very finely ridged, the two central ridges more prominent, prickly scaled; brown, the two central ridges white.

Hab. — ?

Somewhat of a triangularly fusiform shape.

Species 49. (Mus. Cuming.)

RICINULA RUTILA. *Ricin. testā ovatā, basi subproductā, spiræ apice subobtusā; anfractibus rotundatis, concentricè nodoso-costatis; rufo undique zonatā, nodis albis.*

THE RED RICINULA. Shell ovate, a little produced at the base, apex of the spire rather obtuse; whorls rounded, concentrically nodosely ribbed; zoned throughout with red, nodules white.

Hab. — ?

A prettily beaded shell.

Species 50. (Mus. Cuming.)

RICINULA FERRUGINOSA. *Ricin. testā subfusiformi-ovatā, liris obtuso-nodulosis undique clathratā; ferrugineo-fusco, zonis duabus albidis inter nodulis cingulatā.*

THE RUSTY RICINULA. Shell somewhat fusiformly ovate, latticed throughout with obtusely noded ridges; rusty-brown, encircled with two zones white between the nodules.

Hab. — ?

Characterized by two narrow white zones, the nodules upon which are of the same dark rusty brown as the rest of the shell.

Species 51. (Mus. Cuming.)

RICINULA LINEATA. *Ricin. testā ovatā, obesā, solidā, longitudinaliter nodoso-plicatā; albā, lineis plumbeo-nigris cingulatā.*

THE LINEATED RICINULA. Shell ovate, stout, solid, longitudinally nodosely plicated; white, encircled with lead-black lines.

Hab. Island of Ticao, Philippines (under stones at low water); Cuming.

Easily recognised by its style of painting.

Species 52. (Mus. Cuming.)

RICINULA ACUMINATA. *Ricin. testā ovatā, spirā acuminatā; anfractibus longitudinaliter obsoletè plicato-costatis, supernè unicarinatis, infra tenuiliratis; luteo-fuscescente.*

THE ACUMINATED RICINULA. Shell ovate, spire acuminated; whorls longitudinally obsoletely plicate ribbed, with a single keel round the upper part, finely ridged beneath; yellowish brown.

Hab. — ?

A cross-beaded shell of an uniform yellowish brown colour.

Species 53. (Mus. Cuming.)

RICINULA RECURVA. *Ricin. testā abbreviato-ovatā, mediè gibbosā, utrinque attenuatā, basi recurvā, anfractibus concentricè plicato-costatis, costis latiusculis, confertè supernè unicarinatis, infra tenuiter liratis; luteo-aurantiā, fasciā albidā medio cingulatā.*

THE RECURVED RICINULA. Shell shortly ovate, gibbous round the middle, attenuated at each end, recurved at the base; whorls concentrically plicately ribbed, ribs rather broad, close-set, a single keel round the upper part, finely ridged beneath; yellowish orange encircled round the middle with a white band.

Hab. Lord Hood's Island, Pacific Ocean; Cuming.

Species 54. (Mus. Cuming.)

RICINULA ECHINATA. *Ricin. testā ovatā, utrinque attenuatā, longitudinaliter plicato-costatā transversim peculiariter lirata, liris angustis tubulosis, costas super punctatè echinato-squamatis, lirarum interstitiis excavatis; albidā, punctis crocato-rufis seriatim pictā.*

THE PRICKLE-ARMED RICINULA. Shell ovate, attenuated at both ends, longitudinally plicately ribbed, transversely peculiarly ridged, ridges narrow, tubulous beautifully prickly scaled upon the ribs, interstices between them excavated; whitish, painted with rows of faint saffron red dots.

Hab. — ?

Of a character totally distinct from that of any species that have preceded it; the varieties of sculpture and arrangement of colour in the semi-Ricinuloid series of this genus are truly interesting.

RICINULA.

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MONOGRAPH
OF THE GENUS
MONOCEROS.

"Then were they known to men by various names."—*Milton*



Sowerby del et lith.

Reeve imp.

MONOCEROS.

PLATE I.

Genus MONOCEROS, Lamarck.

Testa ovata, spirā nunc elatā, nunc subdepressā, anfractu ultimo inflato, basi emarginato; columellā amplā, depressiusculā, interdum subindistinctè plicatā; labro processu dentiformi, acutissimo, elongato, prope basin armato. Operculum corneum.

Shell ovate, spire sometimes elevated, sometimes a little depressed, last whorl inflated, emarginated at the base; columella large, rather depressed, sometimes indistinctly plaited, lip armed near the base with a very sharp elongated dentiform process or tooth.

The genus *Monoceros* of Lamarck, introduced almost simultaneously by De Montford under the title of *Unicornus*, is characterized solely by the conspicuous tooth which becomes developed towards the base of the lip; the genus is not, however universally admitted, the animals of *Monoceros* and *Purpura* are the same, and there are many of the *Purpura* which exhibit indications of a tooth.

The species are very limited in number, and no additions have been made to the catalogue during the last few years.

Species 1. (Mus. Cuming.)

MONOCEROS UNICARINATUM. *Mon. testā ovato-oblongā, subfusiformi, anfractibus supernè angulatis, ad angulum subobsolete carinatis, transversim impresso-striatis, aperturæ fauce denticulatā; cinereo-albicante, arcis inter striae fusco-nigricante articulatis, aperturā albicante, rufo interdum exiliter tinctā.*

THE ONE-KEELED MONOCEROS. Shell ovately oblong, somewhat fusiform, whorls angulated round the upper part, rather obsoletely keeled at the angle, transversely impressly striated, interior of the aperture denticulated; ashy white, spaces between the striae articulated with brownish black, aperture whitish, sometimes faintly tinged with red.

SOWERBY, Conch. Illus. *Monoceros*, fig. 5.

Purpura spicata, De Blainville.

Purpura engonata, Conrad.

Hab. Santa Barbara, California (under stones at low water); Nuttall.

This is unquestionably a true *Monoceros*; M. Kiener, who includes the species among his 'Pourpres buccinoides,' under De Blainville's name of *P. spirata*, has represented a specimen in an early stage of growth before the tooth is developed.

Species 2. (Mus. Cuming.)

MONOCEROS PUNCTATUM. *Mon. testā subglobosā, crassā, lævigatā, labro intus denticulato, lutescente-albā, fasciis tribus nigripunctatis cinctā, aperturā rufo pallidè tinctā.*

THE DOTTED MONOCEROS. Shell somewhat globose, thick, smooth, lip denticulated within; yellowish-white, encircled with three black-dotted bands, aperture faintly stained with red.

GRAY, Zoology of Beechey's Voyage, p. 124.

Purpura lapilloides, Conrad.

Hab. Isle of Cocos, north-west coast of Mexico (on the rocks); Capt. Colnett. Santa Barbara; Nuttall.

This species, although found in the same locality with the preceding, is perfectly distinct, and may be recognized by its more solid globose structure and dotted bands.

Species 3. (Mus. Cuming.)

MONOCEROS GIGANTEUM. *Mon. testā oblongo-fusiformi, medio ventricosā, basi attenuatā, lævigatā, transversim obsoletè costatā, columellā infernè subplanulatā, labro simplici, integro, aperturā amplā; pallidè luteo-fuscescente, costis saturatioribus, aperturæ fauce croceā.*

THE GIGANTIC MONOCEROS. Shell oblong fusiform, ventricose in the middle, attenuated at the base, smooth, transversely obsoletely ribbed, columella a little flattened towards the lower part, lip simple, entire; aperture large; pale yellowish brown, ribs darker, interior of the aperture yellow.

LESSON, Voy. de la Coquille, (1826), Moll. p. 405. p. 11. f. 4.

Monoceros Fusoides, King, Zool. Journ. (1830).

Hab. Conception, Chili (in rocky places at a depth of from three to five fathoms); King.

Very few examples of this fine species have yet been found in good condition; M. Lesson appears to have preceded Capt. King in the discovery of it by three or four years.

Species 4. (Mus. Cuming.)

MONOCEROS BREVIDENTATUM. *Mon. testā ovatā, crassā, spirā brevī, subacuminatā, transversim impresso-striatā, obsoletè triseriatim nodoso-costatā; cinereo-nigricante, maculis albis cinctā, aperturā albā.*

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THE SHORT-TOOTHED MONOCEROS. Shell ovate, thick, spire short, somewhat acuminate, transversely impressly striated, encircled with three obsolete noded ribs; ashy blackish, encircled with white spots, aperture white.

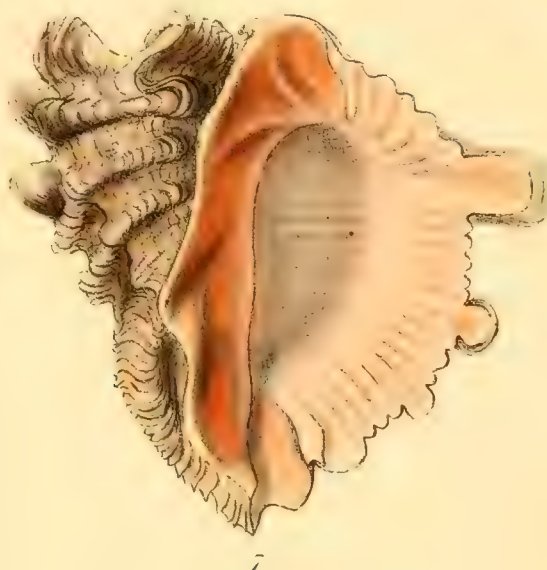
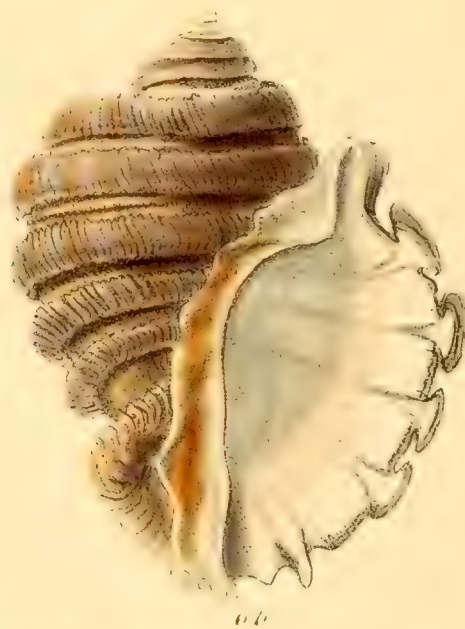
GRAY, Wood's Index Test. Supp. pl. 4. f. 10.

Purpura cornigera, De Blainville.

Testa junior, *Purpura ocellata*, Kiener.

Hab. Xipixapi and Monte Christi, West Columbia (in crevices of rocks at low water); Cuming.

The tooth, though perfectly developed, is rather minute in this species.



MONOCEROS.

PLATE II."

Species 5. (Mus. Cuming.)

MONOCEROS TUBERCULATUM. *Mon. testā ovatā, basi umbilicatā, spirā brevi, plus minusve exsertā, anfractibus supernè depressiusculis, transversim plicato-costatis, costis angustis tuberculatis, tuberculis compressis, superioribus valdè prominentioribus, costarum interstitiis sulcatis, aperturā oblongā, fauce lineatā; lutescente-albā, aperturā carneā.*

THE TUBERCULATED MONOCEROS. Shell ovate, umbilicated at the base, spire short, more or less exserted, whorls narrow, tuberculated, tubercles compressed, upper ones very prominent, interstices between the ribs grooved, aperture oblong, interior lineated; yellowish white, aperture flesh-tinted.

GRAY; Sowerby, Conch. Illus. *Monoceros*, fig. 9.

Hab. St. Elena, West Columbia (in the crevices of rocks); Cuming.

Chiefly distinguished by the narrow compressed tubercled structure of the ribs.

Species 6. (Mus. Cuming.)

MONOCEROS GRANDE. *Mon. testā ovatā, crassā, spirā breviusculā, acutā, anfractibus supernè concavis, transversim costatis, costis grandibus peculiariter crebrisquamatibus, squamis utrinque depresso-fornicatis, subinde latioribus, interstitiis profundè excavatis, liris minutè squamatis ornatis, aperturā ovatā, fauce lineatā, labro laqueato, dente subelongato, conspicuo; purpureo-fuscā, aperturā albā, columellā rufo tinctā.*

THE GREAT MONOCEROS. Shell ovate, thick, spire rather short, sharp, whorls concave round the upper part, transversely ribbed, ribs large, peculiarly closely scaled, scales depressly vaulted on either side, now and then wider, interstices deeply excavated, ornamented with minutely scaled ridges; aperture ovate, interior lineated, lip fluted, tooth rather elongated, conspicuous; purple brown, aperture white, columella tinged with red.

GRAY, Zool. Beechey's Voyage, p. 124.

Purpura Grayi, Kiener.

Hab. James Island, Gallapagos, (in the clefts of rocks at low water); Cuming.

M. Kiener appears to be unacquainted with the beauty and grandeur of this magnificent species, having questioned the propriety of Mr. Gray's generic arrangement of it merely from the circumstance of his having no other than a young specimen, in which the tooth was scarcely developed.

Species 7. (Mus. Cuming.)

MONOCEROS MURICATUM. *Mon. testā ovatā, spirā peculiariter depresso-truncatā, anfractibus supernè planatis, transversim costatis, costis, quarum superioribus valdè majoribus, tuberculatis et creberrimè squamatis, costarum interstitiis sulcatis et squamatis; columellā planiusculā; aperturā semi-ovatā, fauce lineatā; carneo-fuscā, columellā labroque rufescentibus.*

THE PRICKLY MONOCEROS. Shell ovate, spire peculiarly depressly truncated, whorls flattened round the upper part, transversely ribbed, ribs, the upper of which are much the largest, tuberculated and closely scaled, interstices between the ribs grooved and scaled; columella rather flattened; aperture semi-ovate, interior lineated; fleshy brown, lip and columella reddish.

Purpura muricata, Broderip, Pro. Zool. Soc., 1832, p. 125.

Purpura truncata, Duclos, Magazin de Zool., 1833, pl. 22. f. 2.

Hab. St. Elena, West Columbia (in the crevices of rocks); Cuming.

The *M. muricatum* is chiefly distinguished from the *M. tuberculatum* by its more depressed form, and by the peculiarly broad squamate structure of the ribs; there is a close affinity between them, but the series of each species in various stages of growth, in Mr. Cuming's collection, sufficiently demonstrate the difference in their specific character. M. Duclos' figure, like M. Kiener's of the preceding species, is evidently drawn from an immature toothless specimen.

September, 1846.



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MONOCEROS.

PLATE III.

Species 8. (Mus. Cuming.)

MONOCEROS PLUMBEUM. *Mon. testā globoso-ovatā, crassā, ponderosā, spirā brevissimā, acutā; anfractibus supernè tumidis; columellā arcuatā, basi mucronatā, supernè callosā, labro tenui, simplici, dente parco basem versus munito; aurantio-luteā, epidermide crassā olivaceo-fuscā indutā.*

THE LEADEN MONOCEROS. Shell globosely ovate, thick, ponderous, spire very short, sharp; whorls swollen round the upper part; columella arched, pointed at the base, callous at the top, lip thin, simple, furnished towards the base with a small tooth; orange-yellow, covered with a thick olive-brown epidermis.

Buccinum plumbeum, Chemnitz, Conch. Cab. vol. xi. p. 86. pl. 188. f. 1806, 1807.

Buccinum plumbeum, (Sect. *Les Monodontes*), Deshayes.

Eburna plumbea, Sowerby.

Hab. — ?

This appears to be the most natural situation for this *vexata species*; its generic character is far removed from the type of *Buccinum*.

Species 9. (Mus. Cuming.)

MONOCEROS LUGUBRE. *Mon. testā ovatā, subventricosā, anfractibus costis tribus vel quaternis rudis cingulatis, costis hic illic tumidis, inciso-striatis, interstitiis lacunosis, aperturæ fauce denticulatā, dente marginali longissimo incurvo; fuscā, maculis flammulisve nigris variegatā, columellā et aperturæ fauce purpureo-fuscis.*

THE MOURNING MONOCEROS. Shell ovate, somewhat ventricose, whorls encircled with three or four rude ribs, ribs swollen here and there, engraved with striæ, interstices guttered, interior of the aperture denticulated, marginal tooth very long, curved inwards; brown, variegated with black blotches or flames, columella and interior of the aperture purple-brown.

SOWERBY, Genera of Shells, *Monoceros*. f. 3.

Buccinum cymatum, Solander MSS.

Monoceros cymatum, Sowerby, Tankerville Catalogue.

Monoceros armatum, Gray, Wood Ind. Test. Supp.

Hab. California (on rocks); Belcher.

This species originally received the name of *Buccinum cymatum* from Dr. Solander, and the manuscript in which

it occurs is accessible to all who desire to consult it among the records in the library of the British Museum; it cannot however, in justice to foreign authors, be regarded of any authority, and the word *cymatum* has never been published except in an equally inauthentic inventory of species in the Tankerville Catalogue. If Mr. Sowerby, to whom this confusion of names is incidentally due, had issued a description or figure of the species, under its original title, in his valuable appendix to that Catalogue, it would have been duly established; but, as this is not the case, the species becomes entitled to the new name of *lugubre*, somewhat indiscreetly introduced by the same author in his 'Genera of Shells.'

Species 10. (Mus. Cuming.)

MONOCEROS IMBRICATUM. *Mon. testā ovatā, ventricosā, liris subangustis undique cingulatā, liris interstitiisque densissimè imbricato-squamosis, aperturā dilatatā, dente longissimo, erecto; rufescente-fuscā columellā et aperturæ fauce albis.*

THE IMBRICATED MONOCEROS. Shell ovate, ventricose, encircled throughout with rather narrow ridges, which, together with the interstices are very thickly imbricately scaled; aperture dilated, tooth very long, straight; reddish-brown, columella and interior of the aperture white.

Variety β . (Fig. 10. *b*.)

Testa lævigata.

Shell smooth.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. x. p. 119.

Buccinum monoceros, Chemnitz.

Buccinum monodon, Gmelin.

Rudolpha monodon, Schumacher.

Variety β , *Monoceros striatum*? Lamarck.

Hab. Cape Horn.

It would scarcely be supposed that there are states of this species in which the imbricating scales almost wholly disappear; in the specimen represented at Fig. 10 *b*, there is only just sufficient indication of the squamate sculpture at the lip to identify it.

Species 11. (Mus. Cuming.)

MONOCEROS CINGULATUM. *Mon. testā ovatā, spirā subprominulā, anfractibus supernè concavo-depressis, liris*

planis, subobsoletis, undique cingulatis, interstitiis striatis, lirā minutā labrum versus medio decurrente, columellā uniplicatā, aperturā breviusculā, dente acuto, incurvo; intus extusque albā, liris nigerrimo-fuscis, epidermide luteo-fuscā indutā.

THE GIRDLED MONOCEROS. Shell ovate, spire rather prominent, whorls concavely depressed round the upper part, girdled throughout with rather obsolete flattened ridges, interstices striated, with a minute ridge running through the middle towards the lip; columella one-plaited; aperture rather short; tooth sharp, incurved; white within and without, ridges very dark brown, covered with a yellowish-brown epidermis.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. x. p. 118.

Turbinella cingulata, Kiener.

Buccinum pseudodon, Burrows.

Hab. Panama (in clefts of rocks at low water); Cuming.

Quite inseparable from the present group, although distinguished, like *Tubinellus*, by a winding plait upon the columella.

Species 12. (Mus. Cuming.)

MONOCEROS CALCAR. *Mon. testā suborbiculari-ovatā, concavo-depressā, spirā brevissimā, anfractibus ventricosis, liris interstitiisque densissimè imbricato-squamatis, aperturā ampliter dilatatā, dente longissimo, erecto; rufescente-fuscā, columellā et aperturæ fauce albis.*

THE SPUR MONOCEROS. Shell somewhat orbicularly ovate, concavely depressed, spire rather narrow, ridges and interstices between them very thickly imbricately scaled, aperture largely dilated, tooth very long and erect; reddish brown, columella and interior of the aperture white.

DESHAYES, Anim. sans vert. vol. x. p. 122.

Buccinum calcar, Martyn, Universal Conchology, vol. 2. pl. 50.

Monoceros breve, Sowerby.

Hab. Cape Horn.

This only differs from the *M. imbricatum* in respect of form; the sculpture is the same.



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MONOCEROS.

PLATE IV.

Species 13. (Mus. Cuming.)

MONOCEROS ACUMINATUM. *Mon. testā oblongo-ovatā, spirā peculiariter acuminatā; spiraliter liratā, liris parvis, subdistantibus, liris interstitiisque tenuissimè squamatis, squamis interdum in laminis continuè decurrentibus; albidā, ferrugineo-fusco variā, aperturā albā, labri margine intus purpureo-fuscā.*

THE ACUMINATED MONOCEROS. Shell oblong-ovate, spire particularly acuminate, spirally ridged, ridges small, rather distant, ridges together with the interstices very finely scaled, the scales sometimes running down continuously in laminæ; white, variegated with rusty brown, aperture white, edge of the lip thickened within with purple-brown.

SOWERBY, Conch. Illustrations, *Monoceros*, Fig. 10.

Hab. Valdivia, Chili (on rocks at low water); Cuming.

Approximating very closely in general character to the *M. crassilabrum*, but so widely removed from it in form, that it is impossible to be reconciled to the propriety of maintaining the *M. calcar* and *imbricatum*, as distinct species without adopting the distinction in the present case.

Species 14. (Fig. a, b, c, d, Mus. Cuming.)

MONOCEROS CRASSILABRUM. *Mon. testā ovatā, crassissimā, ponderosā, aut lævigatā aut squamiliratā; aperturā parvā, labro valdè plano-incrassato, margine interno, obsoletè denticulato, dente acuto, erecto; citrino vel rubente-fusco, columellā labroque lacteis.*

THE THICK-LIP MONOCEROS. Shell ovate, very thick, ponderous, either smooth or scaly ridged; aperture small, lip very flatly thickened, inner edge obsoletely denticulated, tooth sharp, erect; citron yellow or reddish brown, lip and columella milk-white.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 120

Fig. 14 c. *Monoceros globulus*, Sowerby.

Fig. 14 d. *Monoceros citrinum*, Sowerby.

Hab. Valparaiso, Chili (under stones at low water); Cuming.

Chiefly distinguished by its broad flattened lip.

Species 15. (Mus. Cuming.)

MONOCEROS GLABRATUM. *Mon. testā oblongo-ovatā, crassiusculā, spirā subacuminatā; anfractibus convexis, glabratis, labro obliquè planato, dente acuto, erecto; rubente-fusco variā, labro et aperturæ fauce albis.*

THE SMOOTH MONOCEROS. Shell oblong-ovate, rather thick, spire somewhat acuminate; whorls convex, smooth, lip obliquely flattened, tooth sharp, erect; variegated with reddish brown, lip and interior of the aperture white.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 120.

Hab. Island of Chiloe (on rocks at low water); Cuming.

Little more, apparently, than an acuminate growth of the preceding species.

MONOGRAPH

OF THE GENUS

B U L L I A.

"Well hast thou taught the way that might direct
Our knowledge, and the scale of Nature set
From center to circumference."—*Milton*.



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BULLIA.

PLATE I.

Genus BULLIA, Gray.

Testa ovato-turrita, spirā subulato-acuminatā, spiræ suturis nunc impressis, nunc callosis; columellā plus minusve callosā, labro sæpissimè simplici, aperturā basi latè emarginatā; lutescente aut pallidè lividā.

Shell ovately turreted, spire subulately acuminate, sutures of the spire sometimes impressed, sometimes callous; columella more or less callous, lip mostly simple, aperture widely emarginated at the base; yellowish or pale livid colour.

The genus *Bullia* was founded by Mr. Gray for the purpose of distinguishing a very natural group of species, intermediate between *Buccinum* and *Terebra*, and of which the *Buccinum lævissimum* and *Terebra vittata* of Lamarck, may be regarded as typifying a peculiarity of character fully borne out by a difference in the animal, which, according to the representations of MM. Quoy and Gaimard, is remarkably characterised by the wide expansion of its ventral disc.

Of the multifarious genera enumerated by Mr. Gray in his 'Synopsis of the Collection of the British Museum', few are more deserving of attention than the present, introduced in his 'Zoology of Beechey's Voyage of the Blossom'; not only are the shells distinguished by a subulate turreted growth, different from that of any *Terebra*, and are for the most part of a curious callous formation, but they possess a livid peculiarity of colouring and texture which assumes a certain degree of generic importance.

The species at present known are about two- or three- and twenty in number, several of which have been confounded together, for want of investigation, under similar names. They do not appear to be confined to any particular locality; in respect to their habits, the author notices that they "are found crawling on the sand in bays; they generally remain at the bottom of the water, and are easily caught alive with a bit of meat tied at the end of a string, as they immediately attach themselves to it."

Species 1. (Mus. Cuming.)

BULLIA TENUIS. *Bul. testā tenuiculā, acutè turritā, basem versus ventricosā, spiræ suturis subimpressis; anfractibus lævigatis, supra sulcā unicā minutā, infra sulcis subtilibus plurimis cingulatis, aperturā latiusculā; sordidè albā.*

THE THIN BULLIA. Shell rather thin, sharply turreted, ventricose towards the base, sutures of the spire rather impressed; whorls smooth, encircled with several fine grooves below and a single minute one above, aperture rather wide; dull white.

GRAY, MSS., British Museum.

Hab. — ?

A thin delicate species, comparatively smooth, and white.

Species 2. (Mus. Cuming.)

BULLIA ARMATA. *Bul. testā turritā, spiræ suturis callosis; anfractibus supernè angulato-declivibus, nodis prominentibus submucronatis irregularibus ad angulum armatis; columellā supernè callosā; albidā, fasciis duabus rufo- vel cæruleo-fuscis latiusculis ornatā.*

THE ARMED BULLIA. Shell turreted, sutures of the spire callous; whorls angularly slanting round the upper part, armed at the angle with irregular prominent pointed nodules; columella callous at the upper part; whitish, ornamented with two rather broad reddish or blueish-brown bands.

GRAY, Zoology of Beechey's Voyage, p. 26.

Buccinum moniliferum, Valenciennes.

Hab. — ?

Easily distinguished from any other species at present known, by the armature of elevated nodules with which the whorls are coronated.

Species 3. (Mus. Cuming.)

BULLIA GRADATA. *Bul. testā ovatā, crassiusculā, spirā exsertā, suturis callosis; anfractibus supernè depressoplanis, subgrundā rotundatā marginatis undique lævigatis, columellā supra callosā; pallidè luteo-spadiceā, rufo-fusco hic illic longitudinaliter flammata.*

THE STEP BULLIA. Shell ovate, rather thick, spire exserted, sutures callous; whorls depressly flattened round the upper part, margined with a rounded ledge, smooth throughout; columella callous above; pale yellowish bay, longitudinally flamed here and there with reddish-brown.

DESHAYES, Anim. sans vert. vol. x. p. 186.

Hab. — ?

This shell was referred by Mr. Gray in his 'Zoology of

Beechey's Voyage', and by M. Kiener in his 'Iconographie', to the *Buccinum cochlidium* of Chemnitz, until M. Deshayes, with his usual acumen, observed a marked dissimilarity between the shell here represented and the figure in the 'Conchylien Cabinet'. Upon the discovery of this want of resemblance he introduced the species under consideration with the name here adopted, and I am happy to bear testimony to the value of his discrimination by publishing in Plate IV. a figure of the true *Buccinum cochlideum* of Chemnitz, taken from a worn and rather mutilated specimen in the British Museum, the only one I have seen.

Fig. 4 proves to be merely a contracted belted growth of the *B. lævigata*, Sp. 6. For Sp. 4 see Plate IV.

Species 5. (Mus. Cuming.)

BULLIA GLOBULOSA. *Bul. testā ovatā, ventricosā, spirā brevi; anfractibus supernè rotundatis, undique lævigatis, columellā subcallosā, aperturā subamplā; purpureo- aut fuscescente-albā, columellā luteo-aurantiā.*

THE GLOBULAR BULLIA. Shell ovate, ventricose, spire short; whorls rounded at the upper part, smooth throughout, columella somewhat callous, aperture rather large; purple- or brownish-white, columella yellowish orange.

Buccinum globulosum, Kiener, Icon. coq. viv. p. 2. pl. 10. f. 3.
Hab. — ?

Distinct from the following, the globose variety of which it approximates in general aspect; the sutures of the spire

are not filled up with any callous deposit of enamel, the shell is of a more rude obtuse growth, and it is distinguished by a different system of colouring.

Species 6. (Fig. 4 and 6, Mus. Cuming.)

BULLIA LÆVIGATA. *Bul. testā ovato-turritā, basem versus inflatā, spirā acutā, suturis callosis, anfractibus undique lævigatis, sulco parvo subobsoleto supernè cingulatis; aperturā subamplā; purpureo-albidā, rubiginoso apicem versus tinctā, columellā albā, maculā purpureo-fuscă ornatā.*

THE SMOOTH BULLIA. Shell ovately turreted, inflated towards the base, spire sharp, sutures callous, whorls smooth throughout, encircled round the upper part with a small rather obsolete groove; aperture rather large; purple-white, stained towards the apex with rusty brown, columella white, ornamented with a purple-brown blotch.

GRAY, Zoology of Beechey's Voyage, p. 127.

Buccinum lævigatum, Martini.

Buccinum lævissimum, Gmelin, Lamarck.

Nassa lævissima, Deshayes.

Hab. — ?

This species, as shown by the examples represented at Fig. 4 and 6, varies exceedingly in its growth, some specimens being very much contracted and belted, whilst in others the spire is sharply acuminate; a character, too, which appears to be worth noticing as of constant occurrence, is the purple brown blotch on the columella.

BULLIA.

PLATE II.

Species 7. (Mus. Cuming.)

BULLIA GRAYI *Bul. testâ ovato-turritâ, spirâ peculiariter attenuatâ, et acutè aciculatâ; anfractibus lævigatis, transversim superficialiter sulcatis, costâ callosâ planâ spirali juxta suturam; livido-fuscescente, costâ spirali livido-albidâ, columellâ albâ, aperturæ fauce rubiginosâ.*

GRAY'S BULLIA. Shell ovately turreted, spire peculiarly attenuated and sharply aciculated; whorls smooth, transversely superficially grooved, with a flattened callous spiral rib next the suture; livid brown, spiral rib livid-white, columella white, interior of the aperture rust-brown.

Hab. — ?

There is a magnificent specimen of this sharply aciculated species in the British Museum, nearly twice the size of the one here figured, and which I regret not having observed until after the accompanying plate was engraved. I consider it distinct from the smaller *B. Mauritiana*, and dedicate it to the founder of the genus.

Species 8. (Mus. Cuming.)

BULLIA BELANGERI. *Bul. testâ turritâ, spiræ suturis subprofundis, anfractibus lævigatis, basi profundè sulcatis, lirâ planâ supernè juxta suturam cingulatis; aperturâ parviusculâ; pallidè lividâ, lineis rufis exilibus undulatis longitudinaliter tinctâ.*

BELANGER'S BULLIA. Shell turreted, sutures of the spire rather deep, whorls smooth, deeply grooved at the base, encircled with a flattened ridge round the upper part next the suture; aperture rather small; pale livid colour, stained longitudinally with waved faint red lines.

Buccinum Belangeri, Kiener, Icon. coq. viv. pl. 14. f. 48.

Buccinum politum, Deshayes (not of Lamarck) in

Bé langer's Voyage.

Hab. Ceylon.

This species which may be easily recognised by its undulating faint red lines, was figured by Martini, Conch. Cab. vol. iv. pl. 155. f. 1463; and is one of many instances of species published in that important work between sixty and seventy years since, which escaped the observation of Lamarck, and have since remained in obscurity.

Species 9. (Mus. Cuming.)

BULLIA VITTATA. *Bul. testâ elongato-turritâ, spiræ suturis subimpressis, anfractibus lævigatis aut concentricè sulcatis, supernè juxta suturam tenuiplicatis; albidâ, aperturæ fauce croceâ.*

THE RIBAND BULLIA. Shell elongately turreted, sutures of the spire rather deep, whorls smooth or concentrically striated, spirally delicately grooved, finely plaited round the upper part next the suture; whitish, interior of the aperture yellowish.

Buccinum vittatum, Linnæus, Syst. Nat. (12th edit.) p. 1206.

Terebra vittata, Lamarck.

Hab. Ceylon.

Two species appear to have been confounded under this head by Linnæus and subsequent authors; that which I retain to represent it, answers best with the Linnæan diagnose, and is the one figured in the 'Encyclopédie Méthodique', and by Kiener; the other species which follows under the name *B. livida*, is that figured by Martini and De Blainville.

Species 10. (Mus. Cuming.)

BULLIA LIVIDA. *Bul. testâ elongato-turritâ, spiræ suturis impressis, anfractibus lævibus politis, spiraliter obsoletè impresso-striatis, supernè juxta suturam fortiter crenulato-plicatis, labro incrassato, varicoso, aperturâ brevi; livido-cærulescente, columellâ albâ, aperturæ fauce rubiginosâ.*

THE LIVID BULLIA. Shell elongately turreted, sutures of the spire impressed, whorls smooth, polished, spirally obsoletely impressly striated, strongly crenulately plicated round the upper part next the suture, lip thickened, varicose, aperture short; livid-blue, columella white, interior of the aperture rust-brown.

Hab. Zanzibar.

This species may be readily distinguished from the former with which it has been hitherto confounded; the plicated crenulations round the summit of each whorl are much more strongly developed, whilst there are no concentric striæ, the lip has a thickened varix, sometimes two or three upon it, the uniform livid colouring of the shell is characteristic, and it is from a very different locality.

Species 11. (Mus. Cuming.)

BULLIA TAHEITENSIS. *Bul. testā turritā, anfractibus rotundatis, transversim planiliratis, liris confertissimis, duabus tribusve juxta suturam quam cæteris distantioribus, granosis, late vliter excavatis; flavido-cinereā, aurantio-fusco hic illic punctatā, aperturæ fauce rubiginosā.*

THE TAHEITE BULLIA. Shell turreted, whorls rounded, transversely flatly ridged, ridges very close-set, two or three next the suture more distant than the rest, granose, excavated at the sides; yellowish ash colour, dotted here and there with orange brown, interior of the aperture rust-brown.

GRAY, MSS. British Museum.

Hab. Taheite.

The only species at present known in which the shell is disposed in spiral ridges.

Species 12. (Mus. Cuming.)

BULLIA MAURITIANA. *Bul. testā subulato-ovatā, spiræ suturis subimpressis; anfractibus lævigatis, politis, sub-obsolete spiraliter impresso-striatis, lirā planā callosā juxta suturam; pallidè lividā.*

THE MAURITIUS BULLIA. Shell subulately ovate, sutures of the spire somewhat impressed; whorls smooth, polished, rather obsoletely spirally impressly striated,

with a flattened callous ridge next the suture; pale livid colour.

GRAY, Zoology of Beechey's Voyage p. 126.

Hab. Madagascar.

Closely approximating to the *B. Grayi*, but is less ventricose towards the base, whilst the spire is less aciculated at the apex; it is also uniformly smaller, although the specimens represented in the accompanying plate do not exhibit that comparative difference of proportion.

Species 13. (Mus. Cuming.)

BULLIA ANNULATA. *Bul. testā ovato-turritā, spiræ suturis callosis, anfractibus supra plano-depressis, anguli marginè rotundato, annulato, infra creberrimè impresso-striatis; pallidè luteo-spadiceā, columellā albā.*

THE ANNULATE BULLIA. Shell ovately turreted, sutures of the spire callous, whorls flatly depressed round the upper part, edge of the angle rounded, annulate, very closely impressly striated beneath; light yellowish bay, columella white.

Buccinum annulatum, Lamarck, Anim. sans vert. (Deshayes' edit.) vol. x. p. 156.

Nassa annulata, Deshayes.

Hab. — ?

This and the *B. gradata* and *cochlidium*, are the only species at present known in which the whorls are depressly flattened with a ledge round the summit.



16



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14



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18 a



18 b



18 c



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BULLIA.

PLATE III.

Fig. 14 proves to be a variety of the *Bullia Mauritiana* Sp. 12. For Sp. 14 see Plate IV.

Species 15. (Mus. Cuming.)

BULLIA TRUNCATA. *Bul. testā subulatā, basi peculiariter truncatā, anfractibus minutissimè spiraliter striatis, striis numerosis, creberrimis; columellā subobsoletè corrugatā et verrucosā, callosā superne munitā, aperturā brevī, parvā, fauce sulcatā, labro incrassato, marginato; lutescente-albā.*

THE TRUNCATED BULLIA. Shell subulate, peculiarly truncated at the base, whorls very minutely spirally striated, striae numerous, very close set; columella rather obsoletely wrinkled and warty, furnished with a callosity at the upper part, aperture short, small, interior grooved, lip thickened margined; yellowish white.

Hab. — ?

Of very peculiar structure at the aperture.

Species 16. (Mus. Cuming.)

BULLIA TURRITA. *Bul. testā angustā, subulatā, anfractibus lævibus, e suturis subtilissimè et irregulariter plicatis; columellā sulcatā, subcontortā, aperturā parvā, labro tenui; lutescente-albā, fusco basi exiliter tinctā.*

THE TURRETED BULLIA. Shell narrow, subulate, whorls smooth very finely and irregularly plaited from the sutures; columella grooved, somewhat twisted, aperture small, lip thin; yellowish-white, faintly stained round the base with brown spots,

GRAY, Zoology of Beechey's Voyage, p. 126.

Hab. — ?

The form of this shell at the base approaches that of *Terebra*, but it is of lighter growth and readily distinguished as belonging to the present group.

Species 17. (Mus. Cuming.)

BULLIA SEMIFLAMMEA. *Bul. testā ovato-turritā, lævigatā, aut striis minutissimè decussatā, basi sulcatā; columellā callosā, basi mucronatā; lutescente-albā, maculis rubidis quadratis longitudinaliter flammatis medio cingulatā.*

THE HALF-FLAMED BULLIA. Shell ovately turreted, smooth, or very minutely decussated with striae, grooved round the base; columella callous, pointed at the base; yellowish white, encircled round the middle with a row of ruddy square spots which are flamed downwards.

Hab. — ?

This species is strongly characterized by its spiral chain of longitudinally flamed ruddy spots.

Species 19. (Fig. a, b and c. Mus. Cuming.)

BULLIA SEMIPPLICATA. *Bul. testā ovato-turritā, spirā acutè aciculatā, anfractibus longitudinaliter fortiter plicatis, costā callosā spirali subconspicuā juxta suturam, anfractu ultimo lævigato, plicis evanidis; columellā callosā; albidā aut lutescente, fasciis duabus, rufo- aut violaceo-fuscis interdum cingulatā.*

THE HALF-PLAITED BULLIA. Shell ovately turreted, spire sharply aciculated, whorls longitudinally strongly plaited, with a rather conspicuous spiral callous rib next the suture, last whorl smooth, the plaits fading away; columella callous; whitish or yellowish, sometimes encircled with two reddish or violet-brown bands.

GRAY, Zoology of Beechey's Voyage, p. 127.

Hab. — ?

Distinguished by the strongly plaited growth of the first few whorls, and prominent spiral callous rib next the suture; the spire is also peculiarly aciculated.

Species 19. (Mus. Cuming.)

BULLIA POLITA. *Bul. testā ovato-oblongā, subventricosā, spirā breviusculā, acutā; anfractibus lævigatis, vitreis, nitidis, ad apicem exiliter plicatis; columellā brevī, excavatā, basi contortā, aperturæ fauce peculiariter corrugatā, labro tenui, acuto; livido-olivaceā, fasciā nigricante-fuscā obscurā prope suturam cingulatā.*

THE POLISHED BULLIA. Shell ovately oblong, rather short, sharp; whorls smooth, vitreous, shining, faintly plaited at the apex; columella short, excavated, twisted at the base, interior of the aperture peculiarly wrinkled, lip thin, sharp; livid olive colour, encircled with an obscure blackish-brown band near the suture.

Buccinum politum, Lamarck, Anim. sans vert. vol. x. p. 126.

Nassa polita, Deshayes.

Hab. — ?

One of the least acuminate of the genus, and presenting characters intermediate with those of *Nassa*.

Species 20. (Mus. Cuming.)

BULLIA VITREA. *Bul. testā ovato-oblongā, spirā acutā, anfractibus lævigatis, nitidis, aut minutissimè concentricè striatis, ad apicem leviter plicatis; columellā excavatā, subcontortā, aperturæ fauce lævi, labro tenui, acuto; livido-fuscā, apicem versus rubiginosā, longitudinaliter subtilissimè rufo-lineatā.*

THE VITREOUS BULLIA. Shell ovately oblong, spire sharp, whorls smooth, shining, or very minutely concentrically striated, slightly plaited at the apex; columella excavated, somewhat twisted, interior of the aperture smooth, lip thin, sharp; livid-brown or yellowish, rust-colour towards the apex, marked with very fine longitudinal red lines.

Hab. — ?

Very similar to the preceding, but certainly distinct.

Species 21. (Mus. Cuming.)

BULLIA DEFORMIS. *Bul. testā subquadrato-ovatā, crassā, ponderosā, spirā brevissimā; anfractibus supernè valdè callosis, lævibus, medio concavis; columellā callosā, aperturā parvā, labro acuto; lutescente, fasciā violaceo-fuscā obscurā medio cingulatā.*

THE DEFORMED BULLIA. Shell somewhat squarely ovate, thick, ponderous, spire very short; whorls very callous round the upper part, smooth, hollow round the middle; columella callous, aperture rather small, lip sharp; yellowish, encircled round the middle with an obscure violet brown band.

Buccinum deforme, King, Zool. Journal, vol. v. p. 349.

Hab. Río de la Plata; King.

Remarkable on account of its short ponderous callous growth.



23



24



25

BULLIA.

PLATE IV.

Species 4. (Mus. Gray.)

BULLIA DIGITALIS. *Bul. testâ acuminato-turritâ, basem versus gradatim effusâ, truncatâ, spiræ suturis subcallosis, lined spirali incisâ; anfractibus lævibus, ultimo sulco spirali prope basem; ferrugineâ, columellâ albidâ, apertura fauce purpureo-fuscescente.*

THE FINGER-SHAPED BULLIA. Shell acuminate turreted, gradually effused towards the base, truncated, sutures of the spire rather callous and engraved with a spiral line; whorls smooth, last whorl with a spiral groove towards the base; rust colour, columella whitish, interior of the aperture purple-brown.

Buccinum digitale, Meuschen, Mus. Gevers. p. 296.

Buccinum achatinum, Lamarck.

Nassa achatina, Deshayes.

Bullia achatina, Gray.

Hab. — ?

We are indebted to the accuracy of Mr. Dillwyn for showing this to be the *Buccinum digitale* of Meuschen, though it is probable one or two of its congeners were confounded with it under the same title. The specific name attached to it by Lamarck is doubly inapplicable, on account of the term *Buccinum achatinum* having been already given by Muller and others to the type of his genus *Achatina* (*A. perdis*).

Species 14. (Brit. Mus.)

BULLIA SULCATA. *Bul. testâ acuminato-turritâ, basi subeffusâ, anfractibus concentricè creberrimè undulato-sulcatis; cæruleo-plumbeâ.*

THE GROOVED BULLIA. Shell acuminate turreted, somewhat effused at the base, whorls concentrically very closely undulately grooved; blueish lead colour.

Hab. — ?

A peculiarly dark blueish lead-coloured shell of rather solid structure, very closely concentrically grooved throughout.

Species 22. (Mus. Cuming.)

BULLIA SEMIUSTA. *Bul. testâ acuminato-turritâ, basi truncatâ, lævigatâ, politâ; anfractibus supra albidis, infra ustulato-fuscis, columella eburneâ.*

THE HALF-SCORCHED BULLIA. Shell acuminate turreted, truncated at the base, smooth, polished; whorls white above, burnt brown below, columella ivory-white.

Hab. — ?

Distinguished in form, as well as by its peculiar contrast of colouring.

Species 23. (Mus. Brit.)

BULLIA COCHLIDIUM. *Bul. testâ ovato-turritâ, tenuiculâ, anfractibus supernè rotundatis et subcanaliculatis, lævibus, columellâ arcuatâ; pallidè fulvâ.*

THE WINDING-STAIR BULLIA. Shell ovately turreted, rather thin, whorls rounded and somewhat channelled round the upper part, smooth; columella arched, pale fulvous yellow.

Buccinum cochlidium, Chemnitz, Conch. Cab. v. 11. p. 275. pl. 209. f. 2053, 4.

Hab. — ?

It may be observed that a considerable portion of the shell here represented is broken away, but I value it as enabling me to confirm the view taken by M. Deshayes, that the *Buccinum cochlidium* of Chemnitz, with whose figure this specimen accords, is specifically distinct from the *Bullia gradata* with which it has been hitherto confounded.

Species 24. (Mus. Gray.)

BULLIA CALLOSA. *Bul. testâ acuminatâ, basem versus gibbosâ et effusâ, spiræ suturis subprofundis, anfractibus lævibus, columellâ arcuatâ, truncatâ, callositate amplâ munitâ; cæruleo-fuscescente, callositate eburneâ, purpureo-fusco tinctâ.*

THE CALLOUS BULLIA. Shell acuminate, gibbous and effused towards the base, sutures of the spire rather deep, more or less callous; whorls smooth, columella arched, truncated, furnished with a large callosity; blueish-brown.

Buccinum callosum, Wood. Ind. Test. Supp.

Hab. — ?

Remarkable for the callous deposit of enamel which overspreads the columella and a considerable portion of the body-whorl.

Species 25. (Mus. Gray.)

BULLIA RHODOSTOMA. *Bul. acuminatā, subventricosā, spiræ suturis subprofundis, anfractibus lævibus, fasciā callosā supra suturas ornatis; lacteā, aperturæ fauce rufo-fusā.*

THE RED-MOUTH BULLIA. Shell acuminate, somewhat ventricose, sutures of the spire rather deep, whorls smooth, ornamented above the sutures with a callous band; cream white, interior of the aperture reddish brown.

GRAY, MSS. (private cabinet).

Hab. — ?

Of a peculiar cream colour and characterised by a band of enamel deposited above the sutural line.

Species 26. (Mus. Gray.)

BULLIA SQUALIDA. *Bul. testā ovato-oblongā, ventricosā, lævi, basi subcontortā et recurvā, columellā arcuatā; fulvo-fusā, columellā et aperturæ fauce aurantio-luteis.*

THE DIRTY BULLIA. Shell ovately oblong, ventricose, smooth, somewhat twisted and recurved at the base, columella arched; fulvous brown, columella and interior of the aperture orange-yellow.

Buccinum squalidum, King, Zool. Journ. v. 5. p. 349.

Buccinum Paytense, Valenciennes, Kiener.

Hab. Payta.

I have not seen any example of this species with the dark brown epidermis, represented by M. Kiener.

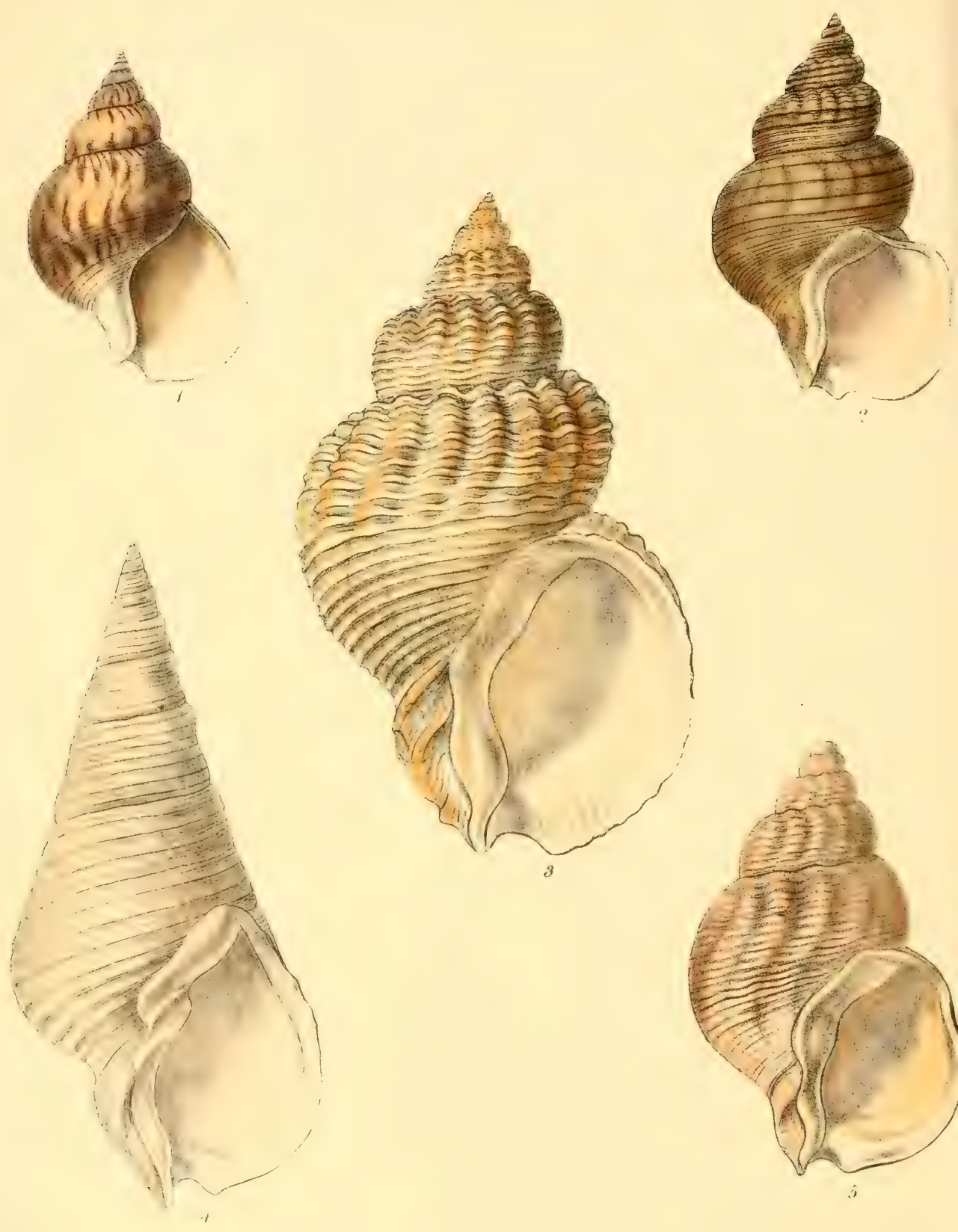
BULLIA.

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MONOGRAPH
OF THE GENUS
B U C C I N U M.

“Endued with various forms, various degrees
Of substance.”—*Milton*.



BUCCINUM.

PLATE I.

Genus BUCCINUM, *Linnaeus*.

Testa ovata vel fusiformi-oblonga, basi emarginata, interdum subcanaliculata et plus minusve recurva; columellâ plerumque lævigatâ; aperturâ callositate aut denticulis sæpissimè supernè munitâ; labro tenuiculo, nunc simplici, nunc crenulato.

Shell ovate or fusiformly oblong, base emarginated, sometimes channelled and more or less recurved; columella generally smooth; aperture most frequently furnished with a callosity or denticles; lip rather thin, sometimes simple, sometimes crenulated.

The Latin word *Buccinum*, a trumpet, was applied indiscriminately by the ancients to any sort of spiral univalve shell; Linnaeus adopted the term in a more restricted sense, yet his genus of that name included a multitude of very anomalous character. Lamarck divided the Linnaean *Buccina* into several excellent acknowledged genera, the chief portion of which constitute his family *Purpurifera*; and it has been considered necessary to institute a still further subdivision of those species distinguished by the titles *Nassa*, *Bullia*, *Cyllene* and *Phos*.

The *Buccinum undatum* and its congeners, though mostly retained as the typical series, are separated by M. Deshayes under the title of *Tritonium*, once assigned to them by Müller; they are mostly of northern origin, and it cannot be disputed that they present a particular uniformity of character, still there is a transition from this characteristic group to an extensive and varied series, mostly of smaller size, inhabiting the tropical regions, which are of more solid growth, of brighter colours, and of which the aperture is mostly distinguished by the presence of a callosity or denticles. With these I include Lamarck's *Purpuræ sertum*, *Francolina* and *lagenaria*, also *Fusus articulatus* of the same author, and numerous species distinguished as a new genus by Mr. Gray with the name of *Polia*.

A number of interesting new species have now to be added, collected by Mr. Cuming at the Philippine Islands, exhibiting an extremely interesting variety of form colour and sculpture.

Species 1. (Fig. Kiener.)

BUCCINUM CILIATUM. *Buc. testâ ovato-conicâ, tenui, ventricosâ, spirâ acutâ; anfractibus rotundatis, transver-*

simi creberrimè striatis; columellâ brevi, subcontortâ; aperturâ amplâ; carneo vel cinereo-fuscescente, obscure fasciatâ, flammulis fuscis longitudinaliter variegatâ.

THE HAIRY BUCCINUM. Shell ovately conical, thin, ventricose, spire acute; whorls rounded, transversely very closely striated; columella short, a little twisted, aperture large; fleshy or ashy brown, obscurely banded, variegated longitudinally with brown flames.

FABRICIUS, O. Fauna Grœnlandica p. 401.

Buccinum ventricosum, Kiener.

An *Buccinum Humphreysianum*? Bennett.

Hab. Newfoundland; Sowerby. Northern Seas; Kiener. Massachusetts, United States, (taken from fishes caught for the most part at the banks); Gould.

This species I regret to say I have not seen; there can however be no fear of mistaking it from the striking figure here copied from M. Kiener's (though probably a little exaggerated) and that of Dr. Gould in his invaluable Report of the Invertebrates of Massachusetts. Of the *Buccinum Humphreysianum* described by Mr. Bennett in the Zoological Journal, specimens are said to have been taken by some fishermen alive in Cork Harbour, perfectly identical with some received from Newfoundland by Mr. Sowerby.

Species 2. (Mus. Cuming.)

BUCCINUM DONOVANI. *Buc. testâ ovato-conicâ, tenuiculâ, spirâ acutâ; anfractibus rotundatis, transversim lineatis et obscure carinatis, apicem versus concentricè plicatis; columellâ brevi, aperturâ subquadrato-ovatâ; albidâ aut fuscescente, epidermide indutâ.*

DONOVAN'S BUCCINUM. Shell ovately conical, rather thin, spire sharp; whorls rounded, transversely lineated and obscurely ridged, concentrically plicated towards the apex; columella short, aperture somewhat squarely ovate; whitish or light brown, covered with an epidermis.

GRAY, Zoology of Beechey's Voyage, p. 128.

Buccinum glaciale, Donovan.

Hab. Massachusetts, United States (inhabits the Bank fishing grounds); Gould.

The shell here represented, it will be observed, does not agree very accurately either with the figures of Donovan

or Dr. Gould; still, I believe it to be the species, whose most constant character is retained in the short square-like effusion of the aperture; the thickness and plicated structure of this group varies, as will be noticed in the following species, according to circumstances of habitation.

Species 3. (Mus. Cuming,)

BUCCINUM UNDATUM. *Buc. testā ovato-conicā, spirā subacuminatā, suturis profundis; anfractibus rotundatis, transversim lineatis et liratis, concentricè plicatis, plicis e suturis descendentes; albidā aut pallidè ferrugineā epidermide sæpissimè indutā.*

THE WAVED BUCCINUM. Shell ovately conical, spire somewhat acuminate, sutures deep; whorls rounded, transversely lineated and ridged, concentrically plicated, folds descending out of the sutures; whitish, or pale rusty colour, most frequently covered with an epidermis.

LINNEUS, Syst. Nat. (12th edit.) p. 1204.

Varieties,

Buccinum vulgare, Da Costa.

Buccinum striatum, Pennant.

Buccinum solutum. Dillwyn.

Hab. Shores of Europe and the United States.

This well known species, the common Whelk of our market, varies in growth according to the situation it inhabits; in a rocky gravelly soil the shell is stout and strongly plicated, on mud and in a soft bottom it is thin, comparatively smooth and covered with a soft epidermis.

Species 4. (Mus. Brit.)

BUCCINUM ACUMINATUM. *Buc. testā conico-subulatā, basi contractā, anfractibus medio leviter concavis, transversim regulariter liratis, interstitiis subtilissimè granoso-striatis; columellā uniplicatā, plicā subamplā; albā, epidermide tenui partim indutā.*

THE ACUMINATED BUCCINUM. Shell conically subulate, contracted at the base, whorls slightly concave in the middle, transversely regularly ridged, interstices very finely granosely striated; columella one-plaited, plait rather large; white, partially covered with a thin epidermis.

BRODERIP, Zool. Journ. vol. v. p. 44. pl. 3. fig. 1 and 2.

Hab. Torquay, south coast of England.

This remarkable light *Terebra*-like species, of which there are in the British Museum two other smaller specimens, was taken alive some twenty years since by a fisherman off Torquay, on the coast of Devonshire; the original proprietor of the shell, Lord Kilcoursie, being in the boat at the time. It is of light structure and of singularly acuminate growth, approaching very much in these respects to a specimen in the possession of John Bates, Esq., R.N., Sec. Royal Yacht Society, thought to be a variety of the *B. glaciale*, recently taken alive by a fisherman off Cowes in one of the basket pots laid along shore in about two or three fathoms water for catching Whelks.

Species 5. (Mus. Brit.)

BUCCINUM LABRADORENSE. *Buc. testā conico-ovatā, ventricosā, tenuiculā, anfractibus rotundatis, transversim tenuissimè striatis, e suturis subobsoletè plicatis; albā, epidermide corneā partim indutā, aperturæ fauce pallidè croceā.*

THE LABRADOR BUCCINUM. Shell conically ovate, ventricose, rather thin, whorls rounded, transversely very finely striated, rather obsoletely plicated from the sutures; white, partially covered with a horny epidermis, interior of the aperture pale saffron colour.

Hab. Labrador; Lady K. Douglas.

This species, of which there are four or five specimens in the British Museum, collected by Lady Katherine Douglas, appears to be quite distinct from any hitherto recorded.



7a



7



7b



8



9



11



10

BUCCINUM.

PLATE II.

Species 6. (Mus. Cuming.)

BUCCINUM SIGNUM. *Buc. testā ovatā, subventricosā, sub-Pyrulæformi, contortā, basi productā et obliquè recurvā; anfractibus transversim peculiariter minutissimè undulato-striatis, supernè angulatis, ad angulum plicato-nodosis, nodis prominentibus; aperturā amplā; cinereā, luteo-fuscescente tinctā, lineis castaneis subdistantibus cingulatā.*

THE FLAG BUCCINUM. Shell ovate, ventricose, somewhat Pyrula-shaped, contorted, produced and obliquely recurved at the base; whorls transversely peculiarly very minutely striated in a waved manner, angulated round the upper part, plicately noded on the angle, nodules prominent, aperture large; ash-colour stained with yellowish brown, encircled with rather distant chestnut brown lines.

Hab. — ?

A remarkable shell having somewhat the aspect of the *Purpura lineata*, but of quite a different form; the general character of this species, and of those which accompany it in the present plate, has almost tempted me to introduce them in a new and separate genus.

Species 7. (Mus. Cuming.)

BUCCINUM TROCHULUS. *Buc. testā oblongo-ovatā, basi contortā, canaliculatā et recurvā, spirā acutā; anfractibus rotundatis, undique creberrimè tenuiliratis, prope apicem nodosis; aperturā oblongā, fauce irregulariter et interruptè liratā; luteo-spadiceā, lineis albis distantibus cingulatā.*

THE LITTLE TOP BUCCINUM. Shell oblong-ovate, twisted, channelled and recurved at the base, spire sharp; whorls rounded, very closely finely ridged throughout, noded near the apex; aperture oblong, interior irregularly and interruptedly ridged; yellowish bay colour, encircled with distant white lines.

Hab. — ?

Another characteristic species of rarity which does not appear to have been hitherto recorded.

Species 8. (Mus. Brit.)

BUCCINUM IMPERIALE. *Buc. testā ovatā, tenuiculā, inflatā; anfractibus transversim striatis et obscure*

liratis, supernè concavo-angulatis, ad angulum obtusè carinatis; aperturā peramplā; sordidè albidā, auran-tio-fusco, præcipuè ad angulum, maculatā et punctatā.

THE IMPERIAL BUCCINUM. Shell ovate, rather thin, inflated; whorls transversely striated and obscurely ridged, concavely angulated round the upper part, obtusely keeled at the angle; aperture very large; dull white, blotched and dotted, especially at the angle, with orange-brown.

Hab. — ?

A species of very peculiar form and colouring, unique, as far as I can ascertain, in our national collection.

Species 9. (Mus. Cuming.)

BUCCINUM FUSOIDES. *Buc. testā fusiformi, basi canaliculatā et recurvā, transversim undique liratis, liris angustis, confertiusculis, interstitiis longitudinaliter striatis; aperturā oblongā, fauce liratā; fuscescente, liris maculis parvis saturatoribus profusè tinctis.*

THE FUSUS-LIKE BUCCINUM. Shell fusiform, channelled and recurved at the base, transversely ridged throughout, ridges narrow, rather close-set, interstices longitudinally striated; aperture oblong, interior ridged; light brown, ridges profusely stained with small spots of a deeper colour.

Hab. — ?

If it were not that this species falls into the present series, distinguished by the recurvature of the channelled base, it might be referred with propriety to the genus *Fusus*.

Species 10. (Mus. Cuming.)

BUCCINUM VARICOSUM. *Buc. testā subfusiformi-turritā, basi canaliculatā et recurvā, spiræ suturis subimpressis, anfractibus subrotundis, transversim conspicuè elevato-striatis, longitudinaliter costatis, costis obtusis, subdistantibus; aperturā parvā; sordidè fuscescente.*

THE VARICOSE BUCCINUM. Shell somewhat fusiformly turreted, channelled and recurved at the base, sutures of the spire rather impressed; whorls nearly round, transversely conspicuously elevately striated, longitudinally ribbed, ribs obtuse, rather distant; aperture small; dull brown.

Murex varicosus, Chemnitz, Conch. Cab. vol. x. p.
256. pl. 162. f. 1546, 7.

Hab. — ?

The *Murex varicosus* of Chemnitz falls so peculiarly into this novel group of recurved-channelled *Buccina*, that I included it in the series, before noticing that M. Kiener had described it under the head of *Fusus*, and M. Deshayes observed that it has as much the appearance of *Buccinum* as of *Fusus*, ("coquille qui a autant l'apparence d'un *Buccin* que d'un *Fuseau*"), and I incline to think the situation to which I have here assigned it is the more appropriate. Lamarck does not appear to have noticed the species.

Species 11. (Mus. Cuming.)

BUCCINUM CASSIDARIÆFORME. *Buc. testâ ovatâ, sub-ventricosâ, basi canaliculatâ et recurvâ; anfractibus*

transversim undique subirregulariter sulcatis, supernè declivibus et angulatis, ad angulum conspicuè nodosis; aperturâ oblongâ, fauce liratâ; intus extusque fusco-aurantiâ.

THE CASSIDARIA-SHAPED BUCCINUM. Shell ovate, rather ventricose, channelled and recurved at the base; whorls transversely somewhat irregularly grooved throughout, sloping and angulated round the upper part, conspicuously nodose at the angle; aperture oblong, interior ridged; brownish-orange within and without.

Hab. — ?

None of the rare and interesting species of this plate from Mr. Cuming's cabinet and the British Museum were collected by him, nor does he possess any information as to their locality or circumstances of habitation.



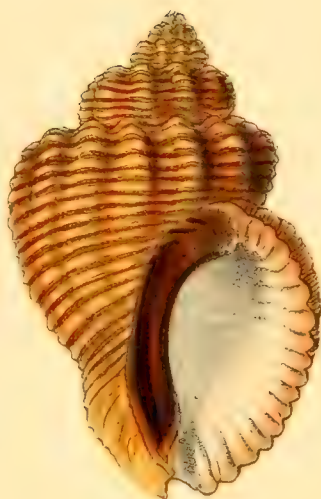
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BUCCINUM.

PLATE III.

Species 12. (Mus. Cuming.)

BUCCINUM NASSOIDES. *Buc. testā pyramidalī-ovatā, apice acuminatā; anfractibus supernè concavis, concentricè nodoso-plicatis, transversim obsoletè liris et subtilissimè striatis; aurantio-fuscescente, nodulis lirisque albidis.*

THE NASSA-LIKE BUCCINUM. Shell pyramidally ovate, acuminate at the apex; whorls concave round the upper part, concentrically nodosely plicated, transversely obsoletely ridged and very finely striated; orange-brown, nodules and ridges whitish.

Hab. — ?

Mr. Cuming possesses no information relative to this new and interesting species.

Species 13. (Mus. Cuming.)

BUCCINUM SPIRALE. *Buc. testā ovatā, spirā acuminatā, suturis profundis; anfractibus supernè plano-angulatis, longitudinaliter obsoletè tuberculato-plicatis, transversim liris prominentibus, interstitiis excavatis et striatis; aperturæ fauce sulcatā et crenatā; albā, fusco hic illic sparsim tinctā.*

THE SPIRAL BUCCINUM. Shell ovate, spire acuminate, sutures deep; whorls flatly angulated round, the upper part, longitudinally obsoletely tubercularly plicated, transversely ridged, ridges prominent, interstices excavated and striated; interior of the aperture grooved and crenated; white, sparingly tinged here and there with brown.

Polia spiralis, Gray, Zoology of Beechey's Voyage, p. 111.
Hab. Mauritius.

Though not uncommon I find no mention of this species, except in the work above quoted; some collectors possess it, named in manuscript *B. fuscum*, but it is obviously not the *B. fuscum* of Bruguière.

Species 14. (Mus. Cuming.)

BUCCINUM ERYTHROSTOMA. *Buc. testā ovatā, spirā acuminatā, anfractibus concentricè tuberculatis, transversim subtiliter et creberrimè liris; aperturæ fauce sulcatā et crenatā; lutescente, epidermide sericeā indutā, tuberculis nigricante-fuscis, aperturæ fauce albā, columellā labrique limbo interno rufis.*

THE RED-MOUTH BUCCINUM. Shell ovate, spire acuminate, whorls concentrically tuberculated, transversely finely and closely ridged; interior of the aperture grooved and crenated; yellowish, covered with a silken epidermis, tubercles blackish brown, interior of the aperture white, columella and inner margin of the lip red.

Hab. Ceylon.

Easily distinguished by the characteristic blood red colouring of the mouth.

Species 15. (Mus. Cuming.)

BUCCINUM MELANOSTOMA. *Buc. testā oblongo-ovatā, sub-ventricosā, anfractibus supernè rotundato-angulatis, suturis profundis, longitudinaliter plicato-undatis, transversim irregulariter liris et striatis, aperturā ovatā, fauce sulcatā et crenatā; aurantio-fuscā, maculis saturatioribus hic illic tinctā, columellā nigricante-fuscā, aperturæ fauce albā.*

THE BLACK-MOUTH BUCCINUM. Shell oblong-ovate, somewhat ventricose, whorls rotundately angled round the upper part, sutures deep, longitudinally plicately waved, transversely irregularly ridged and striated, aperture ovate, interior grooved and crenated; orange brown, stained here and there with spots of a darker brown, columella blackish brown, interior of the aperture white.

SOWERBY, Tankerville Catalogue, Appendix, p. 21.

Hab. Ceylon.

M. Deshayes arranges this species together with the *B. sepimentum* and *plumbeum* (*Monoceros plumbeus*, mihi), in a separate section, under the title of "Les Monodontes"; I do not, however, see that it has any such affinity with them. It may be easily distinguished from the *B. Tranquebaricum* with which species M. Kiener has confounded it, under an impression that they are the same in different ages.

Species 16. (Mus. Cuming.)

BUCCINUM MACULATUM. *Buc. testā gibboso-ovatā, spirā breviusculā, anfractibus supernè leviter concavis, medio turgidis, lævibus, ad apicem tuberculato-nodosis; columellā excavatā, supernè callosā et canaliculatā, basi ampliter emarginatā; griseo-flavā, tæniis fusco-articulatis undique cingulatā.*

December, 1846.

THE SPOTTED BUCCINUM. Shell gibbously ovate, spire rather short, whorls slightly concave at the upper part, swollen at the apex; columella excavated, callos and channelled at the upper part, base largely emarginated; greyish yellow, encircled throughout with brown-articulated fillets.

MARTYN, Universal Conchology, vol. ii. pl. 49.

Buccinum adpersum, Chemnitz.

Buccinum turgidum, Dillwyn.

Buccinum testudineum, var. Kiener.

Hab. New Zealand.

I quite agree with M. Deshayes in the propriety of distinguishing this from the *B. testudineum*, independent of the specific difference which he notices in the animal.

Species 17. (Mus. Cuming.)

BUCCINUM TRANQUEBARICUM. *Buc. testá ovatá, subven-
tricosá, anfractibus supernè rotundato-angulatis, longi-
tudinaliter fortiter plicato-costatis, transversim undique
liratis; aperturæ fauce sulcatá et crenatá; flavescens,
zoná angustá albá interdum cingulatá, liris rufescenti-
bus, columellá et aperturæ fauce albis.*

THE TRANQUEBAR BUCCINUM. Shell ovate, somewhat ventricose, whorls rotundately angled round the upper part, longitudinally strongly plicately ribbed, transversely ridged throughout; interior of the aperture ridged and crenated; pale bright yellow, sometimes encircled with a narrow white zone, ridges reddish,

columella and interior of the aperture white.

Nassa Tranquebarica Martini, Conch. Cab. vol. 4. p. 35. pl. 123. f. 1146, 7.

Hab. Tranquebar.

Not often so brightly coloured as the specimen here figured, which is moreover distinguished by a central white band.

Species 18. (Mus. Cuming.)

BUCCINUM GLACIALE. *Buc. testá subulato-ovatá, spiræ
suturis profundis, anfractibus subplanatis longitudina-
liter obliquè plicatis, transversim bi-tri-carinatis, carina-
rum interstitiis regulariter elevato-striatis; aperturá
brevis, labro conspicuè effuso; sordidè flavido-fuscá,
labro albo.*

THE ICY BUCCINUM. Shell subulately ovate, sutures of the spire deep, whorls somewhat flattened, longitudinally obliquely plicated, transversely two-three-keeled, interstices between the keels regularly elevately striated; aperture short, lip conspicuously effused; dull yellowish brown, lip white.

LINNÆUS, Syst. Nat. (12th. edit.) p. 1204.

Tritonium glaciale, Muller.

An eadem? *Buccinum angulosum*, Gray, Zool. Beechey's Voyage, p. 127. pl. 36. f. 6.

Hab. Northern Seas.

I have not seen the fractured specimen from Icy Cape described by Mr. Gray under the above mentioned name, but fear nevertheless it is a variety of the present species.



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BUCCINUM.

PLATE IV.

Species 19. (Mus. Cuming.)

BUCCINUM MODESTUM *Buc. testā ovato-fusiformi, basi sulcatā, supra subtiliter striatā; aperturā oblongā, labro incrassato, marginato; albidā aut lutescente, rufescente-castaneo tinctā, in strigis juxta suturas disposito, anfractu ultimo zonā angustā albidā cingulatā.*

THE MODEST BUCCINUM. Shell ovately fusiform, grooved at the base, finely striated above; aperture oblong, lip thickened, marginated; whitish or yellowish, stained with reddish chesnut, arranged in streaks next the sutures, last whorl encircled by a narrow white zone.

POWIS, Pro. Zool. Soc. 1835, p. 94.

Hab. Bay of Montija, Central America (dredged from muddy gravel at a depth of from seven to seventeen fathoms); Cuming.

Species 20. (Mus. Cuming.)

BUCCINUM COSTATUM. *Buc. testā pyramidalī-ovatā, anfractibus transversim undique creberrimè sulcatis, supernè concavo-angulatis, ad angulum nodosis, infra obsolete plicato-costatis; columellā excavatā, aperturæ fauce liratā; albidā aut cinereā, areis inter sulcos transversos rufo-fusco articulatis, columellā aurantio-fuscā, aperturæ fauce albā.*

THE RIBBED BUCCINUM. Shell pyramidally ovate, whorls transversely very closely grooved throughout, concavely angled round the upper part, nodose at the angle, obsoletely plicately ribbed beneath, columella excavated, callous and channelled at the upper part, interior of the aperture ridged; whitish or ash colour, areas between the transverse rows articulated with reddish brown, columella orange-brown, interior of the aperture white.

QUOY & GAIMARD. Voy. de l'Astrol. Zool. vol. ii. p. 417, pl. 30. f. 17, to 20.

Hab. South Australia.

The name selected for this species is a very inappropriate one, there being little or no appearance of ribs.

Species 21. (Mus. Cuming.)

BUCCINUM ACUTINODOSUM. *Buc. testā ovatā, spirā breviusculā, turritā, anfractibus supernè angulatis, ad angulum acutè nodosis, transversim undique creberrimè sulcatis; columellā excavatā et supernè canaliculatā; cinereo-vel caruleo-albicante, areis inter sulcos nigricante-fusco articulatis, aperturæ fauce purpureo-nigricante.*

THE SHARPLY NODULED BUCCINUM. Shell ovate, spire rather short, turreted, whorls angulated round the

upper part, sharply noduled at the angle, transversely very closely grooved throughout; columella excavated and channelled at the upper part; ashy or blueish white, areas between the transverse grooves articulated with blackish brown, interior of the aperture purple-black.

Hab. South Australia.

Closely approximating to the preceding species and from the same locality; its more gibbous and shortened growth cannot be estimated of any specific importance, but the columella is rather different, and the interior of the aperture deep purple-black. Mr. Cuming possesses specimens of each without any intermediate modification of these characters.

Species 22. (Mus. Cuming.)

BUCCINUM PORCATUM. *Buc. testā ovato-oblongā, anfractibus supernè concavis, liris plano-convexis, subdistantibus regulariter cinctis, lirarum interstiliis tenuiter striatis; columellā supernè lirā callosā munitā, supra canaliculatā; labro tenui, simplici; ferrugineo-fusco, liris saturatioribus, columellā albā, aperturæ fauce carneo tinctā.*

THE RIDGED BUCCINUM. Shell ovately oblong, whorls concave round the upper part, regularly encircled with rather distant flatly convex ridges, interstices between the ridges finely striated; columella furnished at the upper part with a callous ridge, channelled above; lip thin, simple; rusty brown, ridges darker, columella white, interior of the aperture tinged with flesh-colour.

GMELIN, Syst. Nat. p. 3494.

Buccinum asperius striatum, &c., Martini.

Buccinum Mexicanum, Bruguière.

Purpura ligata, Lamarek.

Buccinum ligatum, Kiener.

Hab. —?

I refer this species to the *Purpura ligata* of Lamarek solely on the authority of M. Kiener.

Species 23. (Mus. Cuming.)

BUCCINUM ANGLICANUM. *Buc. testā oblongā, tenniculā, anfractibus supernè leviter concavis, liris parvis confertiusculis striisque cinctis, columellā supernè lirā callosā munitā, supra canaliculatā; labro simplici; ferrugineo-fuscā, columellā et aperturæ fauce albidis.*

THE ENGLISH BUCCINUM. Shell oblong, rather thin, whorls slightly concave round the upper part, encircled with close-set small ridges and striae, columella furnished at the upper part with a callous ridge,

channelled above; lip simple; rusty brown, columella and interior of the aperture whitish.

MARTINI, Conch. Cab. vol. iv. p. 70. pl. 196. f. 1212.

Buccinum Norvegicum, Enc. Méth.

Hab. Coasts of England and Norway.

Very like the preceding species, differing only in having the ridges more frequent and less strongly developed, and the whorls less elevated one upon each other at the sutures.

Species 24. (Mus. Cuming.)

BUCCINUM PAPYRACEUM. *Buc. testā ovatā, subfusiformi, tenui, anfractibus transversim tenuissimè striatis; columellā subexcavatā, lirā callosā supernè munitā, suprā canaliculatā; ferrugineo-fuscā, columellā et aperturæ fauce albis.*

THE PAPYRACEOUS BUCCINUM. Shell ovate, somewhat fusiform, thin, whorls transversely very finely striated; columella somewhat excavated, furnished at the upper part with a callous ridge, channelled above; light rusty brown, columella and interior of the aperture white.

BRUGUIERE, Enc. Méth. Dict. no. 22.

Hab. —?

So closely do this and the two preceding species approximate to one another, that they may prove to be nothing more than different states of the same.

Species 25. (Mus. Cuming.)

BUCCINUM OVUM. *Buc. testā ovatā, spirā breviusculā, anfractibus rotundatis, ventricosis, lævigatis, labro tenui; eburneā, epidermide tenui lutescente indutā.*

THE EGG BUCCINUM. Shell ovate, spire rather short, whorls round, ventricose, smooth, lip thin; ivory white, covered with a thin yellowish epidermis.

TURTON, Zool. Journal, vol. ii. p. 366. pl. 13. f. 9.

An *Buccinum fusiforme*, Kiener (not of Broderip)?

Hab. Britain.

I have no shell that comes so near to M. Kiener's figure, *B. fusiforme*, as the present; it is of rather a more elongated form, and if on comparison it should prove distinct must be re-named.

Species 26. (Mus. Cuming.)

BUCCINUM TENEBROSUM. *Buc. testā tenui, subinflatā, spirā mediocri, ad apicem subplicatā; anfractibus rotundis, aut supernè leviter depressis, spiraliter indistinctè carinatis, carinis ferè obsoletis, labro acuto; intus extusque violaceo- aut livido-fuscā, columellā supra nigricante.*

THE DARK BUCCINUM. Shell thin, somewhat inflated, spire middling, slightly plaited at the apex, whorls

round or a little depressed round the upper part, spirally indistinctly keeled, keels almost obsolete, lip sharp; violet or livid brown within and without, columella blackish above.

HANCOCK, Ann. and Mag. Nat. Hist. vol. xviii. p. 327. pl. 5. f. 1. 2.

Hab. West coast of Davis's Strait, between Greenland and North America (dredged from a blue clay bottom at a depth of from fifteen to twenty fathoms); Warham and Harrison.

An interesting species of which there are several examples in Mr. Cuming's collection, described almost simultaneously with the present by Mr. Hancock, one of the accomplished authors of the 'British Nudibranchiate Mollusca' issuing under the auspices of the Ray Society. The new species of shells just described in the Magazine above quoted, were dredged in a deep bay on the west coast of Davis's Strait, through the zeal of Messrs. Warham and Harrison, masters of whaling vessels belonging to the port of Newcastle-on-Tyne.

Species 27. (Mus. Cuming.)

BUCCINUM TENUE. *Buc. testā fusiformi-ovatā, tenui, spirā subacuminatā, anfractibus subrotundis, lævibus aut minutissimè spiraliter striatis, concentricè plicatocostatis, labro tenui; sordidè albā.*

THE THIN BUCCINUM. Shell fusiformly ovate, thin, spire rather acuminate; whorls somewhat round, smooth, or very minutely spirally striated, concentrically plicately ribbed, lip thin; dead white.

GRAY, Zool. of Beechey's Voyage, p. 128. pl. 36. f. 19.

Hab. Icy Cape.

Well characterized by its concentric scalariform ribs.

Species 28. (Mus. Cuming.)

BUCCINUM ZEALANDICUM. *Buc. testā conico-ovatā, subventricosā, anfractibus spiraliter striatis, e suturis concentricè fortiter obliquè semiplicatis, labro subincrassato, albidā aut lutescente, maculis rubidis transversim oblongis inter plicas vittatā, aperturæ fauce aurantio-luteā.*

THE NEW ZEALAND BUCCINUM. Shell conically ovate, somewhat ventricose, whorls spirally striated concentrically, strongly half-plicated from the sutures, lip rather thickened, whitish or yellowish, filleted between the folds with transversely oblong red spots, interior of the aperture orange-yellow.

Hab. New Zealand.

The rows of oblong red spots which encircle the upper portion of the whorls in the interstices between the folds, constitute a character by which this species may be easily recognised.



BUCCINUM.

PLATE V.

Species 29. (Mus. Brit.)

BUCCINUM CILIATUM. *Buc. testā ovatā, spirā brevi, anfractibus rotundatis, transversim subtilissimè striatis, concentricè e suturis fortiter plicato-costatis; intus extusque albā.*

THE CILIATED BUCCINUM. Shell ovate, spire short, whorls rounded, transversely very finely striated, concentrically strongly plicately ribbed from the sutures; white within and without.

MOLLER, Index Moll. Grœnl.

Hab. Greenland.

A small ovate white shell very strongly concentrically plicately ribbed.

Species 30. (Mus. Cuming.)

BUCCINUM ANTARCTICUM. *Buc. testā ovato-fusiformi, basi truncatā, anfractibus apicem versus fortiter plicato-costatis, costis anfractibus ultimi evanidis; extus epidermide crassā olivaceā indutā, intus purpureo-fuscā, columellā labrique margine interno albis.*

THE ANTARCTIC BUCCINUM. Shell ovately fusiform, truncated at the base, whorls strongly plicately ribbed towards the apex, ribs of the last whorl fading away; exterior covered with a thick olive epidermis, interior purple-brown, columella and inner edge of the lip white.

Hab. Falkland Islands; Ross.

One of the few species brought home by the Antarctic Expedition of H.M. Ships 'Erebus' and 'Terror,' under the command of Captain Sir James Clarke Ross.

Species 31. (Mus. Brit.)

BUCCINUM FUSIFORME. *Buc. testā fusiformi, spirā acuminatā, anfractibus transversim creberrimè liris et concentricè costatis, costis subgranosis; albā, epidermide fuscесcente indutā.*

THE FUSIFORM BUCCINUM. Shell fusiform, spire acuminate, whorls transversely very closely ridged and concentrically ribbed, ribs subgranose; white, covered by a brownish epidermis.

BRODERIP, Zool. Journal, vol. v. p. 45. pl. 3. f. 3.

Hab. Cork, Ireland.

Partaking very much of the character of *Fusus*.

Species 32. (Mus. Cuming.)

BUCCINUM INTINCTUM. *Buc. testā oblongo-ovatā, tenuiculā anfractibus supernè leviter depressis, transversim undique creberrimè striatis, columellā lævi, callositate supernè munitā, aperturæ fauce radiatim subtiliter liratā; castaneo-rufā epidermide tenui indutā, intus albā.*

THE DYED BUCCINUM. Shell oblong-ovate, rather thin, whorls slightly depressed round the upper part, transversely very closely striated throughout, columella smooth, furnished with a callosity at the upper part, interior of the aperture radiately finely ridged; chestnut red, covered with a thin epidermis, interior white.

Hab. — ?

This species has, I fear, been confounded with the *B. papyraceum*, from which it is constantly distinguished by its less elongated form and deep red colour.

Species 33. (Fig. 33 and 34. Mus. Cuming.)

BUCCINUM LAGENARIUM. *Buc. testā ovatā, transversim tenuissimè striatā, anfractibus supernè compresso-planatis et lacunatis; lutescente, lineolis strigisque spadicæo-fuscis longitudinaliter undulatis variè pictā.*

THE CALABASH-SHAPED BUCCINUM. Shell ovate, transversely very finely striated, whorls compressly flattened and guttered round the upper part; yellowish, variously painted with longitudinally waved brown lines and streaks.

Variety β. (Fig. 33 and 34.)

Testa obsolete plani-lirata, liris maculis quadratis aurantio-fuscis articulatis.

Shell obsoletely flatly ridged, ridges articulated with square orange-brown spots.

DESHAYES, Anim. sans vert. vol. x. p. 81. note.

Purpura lagenaria, Lamarck.

Variety α. *Purpura cucurbita*, Duclos.

Variety β. an *Purpura zebra*? Kiener.

Hab. Cape of Good Hope.

By some unfortunate mistake two examples of Var. β have been figured in place of one of each variety; Var. α has been, however, well represented by M. Duclos in the 'Magasin de Zoologie' for 1833, and it is a shell of very common occurrence.

Species 35. (Mus. Brit.)

BUCCINUM LIMBOSUM. *Buc. testâ conico-ovatâ, anfractibus supernè concavo-depressis, transversim subtilissimè et creberrimè striatis, aperturæ fauce radiatim tenuiliratâ; purpureo-nigricante, columellâ et aperturæ fauce albis, fusco-purpureo tinctis.*

THE COLLARED BUCCINUM. Shell conically ovate, whorls concavely depressed round the upper part, transversely very finely and closely striated, interior of the aperture radiately finely ridged; purple-black, columella and interior of the aperture white, tinged with brownish purple.

Purpura limbosa, Lamareck, Anim. sans vert. (Deshayes' edit.) vol. x. p. 78.

Hab. — ?

A species not often met with, of which there are two or three fine examples in the British Museum; it was only known to Lamareck in a young state.

Species 36. (Mus. Cuming.)

BUCCINUM LINEOLATUM. *Buc. testâ conico-ovatâ, spirâ elevatiusculâ, lævigatâ; griseo-fuscescente lineis nigris æqualibus nunc interruptis, nunc integris, cingulatâ, aperturæ fauce cærulescente, columellâ labrique margine interno rufo-aurantiis.*

THE LINEATED BUCCINUM. Shell conically ovate, spire rather elevated, smooth; greyish brown, encircled with equal black lines sometimes interrupted, sometimes entire, interior of the aperture blueish, columella and inner edge of the lip stained with orange.

LAMARCK, Anim. sans vert. (Deshayes' edit.) p. 164. and p. 186.

Hab. New Zealand.

M. Deshayes has published this as a new species of *M. Quoy*, without observing it to have been already described by Lamareck under the same name; should *M. Quoy's* entire-lined shell prove eventually to be distinct from the

interrupted-lined species of Lamareck (figured by M. Kiener at pl. 8. f. 25. as a variety of *B. maculatum*), I may here suggest that it be named *Buccinum Quoyi*, in honour of the indefatigable naturalist of the 'Astrolabe.'

Species 37. (Mus. Cuming.)

BUCCINUM ALVEOLATUM. *Buc. testâ conico-ovatâ, spirâ elevatiusculâ, lævigatâ; griseo- aut cærulescente-albidâ, maculis cæruleo-nigris transversè oblongis creberrimè seriatim cinctâ.*

THE TESSELLATED BUCCINUM. Shell conically ovate, spire rather elevated, smooth; greyish or blueish white, closely encircled with transversely oblong blue-black spots.

KIENER, Icon. coq. viv. p. 32. pl. x. f. 34.

Hab. New Holland.

This is little more than a variety of the interrupted-lined *B. lineolatum*, in which the lines assume the width of interrupted bands; an argument however in favour of its being regarded as a species, is, that it never occurs with entire bands.

Species 38. (Mus. Brit.)

BUCCINUM PLURIANULATA. *Buc. testâ conico-ovatâ, anfractibus supernè concavo-depressis, lævigatis, aperturæ fauce subtiliter liratâ; griseo-albidâ, lineis nigris undique creberrimè cingulatâ, aperturæ fauce nigricante, labri margine interno albicante.*

THE MANY-RINGED BUCCINUM. Shell conically ovate, whorls concavely depressed round the upper part, smooth, interior of the aperture finely ridged; greyish-white, very closely encircled throughout with black lines, interior of the aperture blackish, inner edge of the lip whitish.

Hab. Swan River.

Perfectly distinguished from the *B. lineolatum* both in form and colouring.



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40b



41



42a



43



42b

BUCCINUM.

PLATE VI.

Species 39. (Mus. Cuming.)

BUCCINUM PRISTIS. *Buc. testā elongato-turritā, acuminatā, basi subcontortā; anfractibus supernè declivibus, apicem versus subobsoletè plicatis et striatis, cæteris lævibus, politis; aperturā brevi, labri limbo pulcherrimè et conspicuè serrato; intus extusque livido-olivaceā.*

THE ELONGATED BUCCINUM. Shell elongately turreted, acuminate, somewhat twisted at the base; whorls depressly slanting round the upper part, somewhat obsoletely plicated and striated, the rest smooth, polished; aperture short, edge of the lip very beautifully and conspicuously serrated; livid olive within and without.

DESHAYES, Anim. sans vert. vol. x. p. 192.

Buccinum serratum Dufresne.

Hab. St. Elena, West Columbia.

The name *pristis* has been given to this singular species by M. Deshayes in consequence of that of *serratum* introduced by Dufresne being pre-occupied in reference to a fossil species; it was originally dedicated by Mr. Gray in manuscript to Lady North, *Buccinum Northiæ*, but I cannot learn that this name ever reached publicity.

Species 40. (Mus. Cuming.)

BUCCINUM SITULA. *Buc. testā oblongo-ovatā, spirā brevi, anfractu ultimo amplo, inflato; lævigatā aut obscurissimè elevato-striatā; aperturā amplā, callositatibus duabus supernè munitā, labro simplici; fulvo-rubidā, maculis violascente-albis seriatim aspersā, aperturæ fauce rufescente-aurantiā.*

THE LITTLE WATER-SCOOP BUCCINUM. Shell oblong-ovate, spire short, last whorl large, inflated, smooth or very obscurely elevately striated; aperture large, furnished at the upper part with two callosities, lip simple; fulvous red, sprinkled with rows of violet-white blotches, interior of the aperture reddish-orange.

Hab. Isle of Annaa, Pacific Ocean (on the reefs at low water); Cuming.

An interesting new species abundantly distinguished from the two which follow by its shorter and more inflated growth, smooth surface and peculiar style of painting.

Species 41. (Mus. Cuming.)

BUCCINUM FRANCOLINUS. *Buc. testā ovato-oblongā, cras-*

siusculā, spirā brevi, subobtusā; anfractibus supernè depresso-concavis, transversim exilissimè et creberrimè elevato-striatis, interstitiis minutissimè cancellatis, anfractu ultimo inflato; aperturā amplā, callositatibus duabus supernè munitā; luteo-aurantiā, fusco-rubido hic illic strigatā et reticulatā, aperturæ fauce luteo-albidā.

THE FRANCOLINE BUCCINUM. Shell ovately oblong, rather thick, spire short, somewhat obtuse, whorls depressly concave round the upper part, transversely very faintly and closely elevately striated, the interstices being very minutely cancellated, last whorl inflated; aperture large, furnished at the upper part with two callosities; yellowish orange, streaked and reticulated here and there with brownish-red, interior of the aperture yellowish white.

BRUGUIERE, Enc. Méth. Dict. no. 24.

Purpura Francolinus, Lamarck.

Hab. Isle of Annaa, Pacific Ocean (on the reefs at low water); Cuming.

This may easily be distinguished from the foregoing and following species, by its minutely cancellated sculpture and delicate tone of colouring.

Species 42. (Mus. Cuming.)

BUCCINUM SERTUM. *Buc. testā ovato-oblongā, spirā brevi, subobtusā, anfractibus supernè leviter concavis, transversim granoso-striatis, striis nunc rudis nunc tenuibus, anfractu ultimo inflato; aperturā amplā, callositatibus duabus supernè munitā; luteo-aurantiā, rufo-castaneo tinctā et variegatā, aperturæ fauce luteo-albidā.*

THE GARLAND BUCCINUM. Shell ovately oblong, spire short, rather obtuse, whorls slightly concave round the upper part, transversely granosely striated, striae sometimes rude sometimes fine, last whorl inflated; aperture large, furnished at the upper part with two callosities; yellowish orange, stained and variegated with red-chesnut, interior of the aperture yellowish-white.

BRUGUIERE, Enc. Méth. Dict. no. 25.

Purpura sertum, Lamarck.

The painting of this species is mostly darker than that of the preceding; the sculpture sometimes coarsely, sometimes delicately engraved.

December, 1846.

Species 43. (Mus. Cuming.)

BUCCINUM PUSIO. *Buc. testā fusiformi, anfractibus supernè leviter concavis, lævigatis aut transversim tenuissimè striatis; columellā excavatā, aperturā oblongā, supernè callositatibus munitā, fauce sulcatā; purpureo-plumbeā, tæniis fusco-articulatis undique cingulatā, aperturæ fauce cærulescente, aurantio margine tinctā.*

THE YOUNG BUCCINUM. Shell fusiform, whorls slightly concave round the upper part, smooth or transversely very finely striated; columella excavated, aperture oblong, furnished at the upper part with callosities, interior grooved; purple-lead colour, encircled throughout with brown-articulated fillets, interior of the aperture blueish, stained at the edge with orange.

LINNÆUS, Syst. Nat. (12th edit.) p. 1223.

Buccinum plumatum, Gmelin.

Fusus pusio Enc. Méth.

Fusus articulatus, Lamarck.

Hab. Honduras, California.

A great deal of confusion has arisen in regard to the origin of this species, in consequence of Linnæus having formed his description from an immature specimen (suggestive of the name *pusio*) "about the size of a hazel-nut," in which the dark spots range in longitudinal streaks, as he describes, instead of forming articulated bands; and in quoting the Mediterranean Sea as its habitat, thereby leading Philippi and others to confound it with the *B. maculosum*, of that locality.

Thanks, however, to Mr. Hanley for calling my attention to it, we possess in the collection of our Linnæan Society the very shell from which the diagnose in the 'Systema Naturæ' was drawn up, with the number referring to it on the shell, in Linnæus's handwriting; and the specimen agrees precisely with the immature representations of the species in Gualter and Bonanni to which he refers.

So many of Linnæus' shells were in young or bad condition, that his descriptions scarcely apply to the same of mature age and in finer state of preservation.



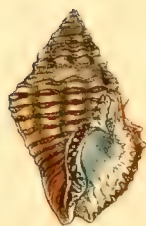
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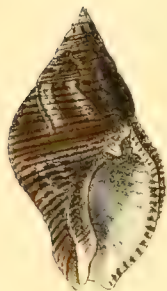
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57

BUCCINUM.

PLATE VII.

Species 44. (Mus. Cuming.)

BUCCINUM D'ORBIGNYI. *Buc. testā fusiformi-ovatā, basem versus paululum contractā; anfractibus concentricè plicato-costatis, transversim striatis et sulcatis; labro intus plicato-dentato; luteo nigroque pulcherrimè variā, zonā angustā albidā cingulatā.*

D'ORBIGNY'S BUCCINUM. Shell fusiformly ovate, a little contracted towards the base; whorls concentrically plicately ribbed, transversely striated and grooved; lip plicately toothed within; beautifully variegated with black and yellow, encircled with a narrow white zone.

PAYRANDEAU, Cat. Moll. de. Corse. p. 159. pl. 8. f. 4 to 6.
Cancellaria D'Orbigny, De Blainville.

Hab. Mediterranean.

The colouring of this shell is extremely characteristic; the plicated ribs are divided, as it were, by the transverse grooves into nodules which are bright yellow on the front side and black at the back.

Species 45. (Mus. Cuming.)

BUCCINUM RINGENS. *Buc. testā ovatā, solidā, gibbosiusculā, spirā brevi, acutā; anfractibus fortiter tuberculato-plicatis, transversim subtilissimè liratis et striatis, columellā labroque profusè sulcatis et corrugatis, supernè canaliculatis; fusco viridique variā, liris fusco articulatis, columellā et aperturæ fauce albis.*

THE GRINNING BUCCINUM. Shell ovate, solid, rather gibbous, spire short, acute; whorls strongly tubercularly plicated, transversely very finely ridged and striated, lip and columella profusely grooved and wrinkled, channelled at the upper part; variegated with green and brown, ridges articulated with brown, columella and interior of the aperture brown.

Hab. Panama (on the rocks at low water); Cuming.

Of a dark blue-green colour, varied with fine spiral cord-like ridges articulated with rusty brown.

Species 46. (Mus. Cuming.)

BUCCINUM HEMASTOMA. *Buc. testā ovatā, solidiusculā, spirā brevi, anfractibus medio tuberculato-plicatis, transversim subtilissimè liratis et striatis, columellā margine minutè verrucosā, supernè lirā callosā munitā, supra canaliculatā; viridi, liris transversis hic illic*

sanguineis, columellæ labrique limbis viridè sanguineis, columellæ verrucis albis, aperturæ fauce albā.

THE BLOOD-RED-MOUTH BUCCINUM. Shell ovate, rather solid, spire short, whorls tubercularly plicated in the middle, transversely very finely ridged and striated, edge of the columella minutely warty, furnished at the upper part with a callous ridge, channelled above; dark green, transverse ridges here and there dark blood-red, warts of the columella white, interior of the aperture white.

Pollia hæmastoma, Gray, Zool. of Beechey's Voyage, p. 112.

Hab. Panama (under stones at low water); Cuming.

Easily recognised by the blood-red colouring of the lip and columella, the latter sprinkled with minute white warts.

Species 47. (Mus. Cuming.)

BUCCINUM RUBIGINOSUM. *Buc. testā oblongā, ovato-fusiformi, concentricè subobsoletè plicatā, transversim subirregulariter lirātā et striatā; aperturæ fauce sulcatā; ferrugineo-aurantiā, fusco hic illic tinctā, zonā unicā albā cingulatā.*

THE RUSTY BUCCINUM. Shell ovately fusiform, concentrically somewhat obsoletely plicated, transversely somewhat irregularly ridged and striated; interior of the aperture grooved; rusty-orange, stained here and there with brown, encircled with a single white zone.

Hab. Red Sea.

This species has a very strong resemblance with the *B. Proteus* which follows at Sp. 51, but is more elongated and constantly distinct.

Species 48. (Mus. Cuming.)

BUCCINUM VARIEGATUM *Buc. testā oblongo-ovatā, spirā acutā, anfractibus supernè depressiusculis, liris subtilibus superficialiis undique cingulatis; columellā, excavatā, lirā callosā supernè munitā, supra canaliculatā; cinereo-fuscā, maculis viridibus variegatā, liris nigris interdum viridi interruptis, aperturæ fauce cærulescente-albā.*

THE VARIEGATED BUCCINUM. Shell oblong-ovate, spire sharp, whorls rather depressed at the upper part,

encircled with fine superficial ridges; columella excavated, furnished with a callous ridge at the upper part, channelled above; ashy brown, variegated with blotches of light green, ridges black, sometimes interrupted with green, interior of the aperture pale blueish white.

Le Tafon, Adanson.

Polia variegata, Gray, Zool. Beechey's Voyage p. 112.

Buccinum viverratum, Kiener.

Hab. Senegal.

I cannot recognise with M. Deshayes the propriety of naming this species *Buccinum Tafon*; the french word *Tafon*, given to it by Adanson, will not assist the Latin binomial in a grammatical sense.

Species 49. (Mus. Cuming.)

BUCCINUM GEMMATUM. *Buc. testā ovatā, crassā, spirā breviusculā, acutā; anfractibus longitudinaliter subobsoletè plicatis, supernè depressiusculis, transversim striatis, liris peculiariter interruptis undique cingulatis; columellā, subverrucosā, excavatā, lirā callosā supernè munitā, supra canaliculatā, aperturæ fauce sulcatā et crenatā; ferrugineo-fuscā, maculis albis variegatā, liris interruptis conspicuè atris, columellā et aperturæ fauce albis.*

THE JEWELLED BUCCINUM. Shell ovate, thick, spire rather short, sharp; whorls longitudinally obsoletely plicated, slightly depressed round the upper part, transversely striated, encircled throughout with peculiarly interrupted ridges; columella a little warty, excavated, furnished with a callous ridge at the upper part, channelled above, interior of the aperture grooved and crenated; rusty brown, variegated with blotches of white, interrupted ridges conspicuously jet black, columella and interior of the aperture white.

Hab. Monte Christi, West Columbia (in clefts of the rocks); Cuming.

A very striking species of which the transverse jet beads remind one of the irridiscent *Turbinella prismatica*. M. Kiener figures it for the female *B. undosum*.

Species 50. (Mus. Cuming.)

BUCCINUM PAGODUS. *Buc. testā ovato-fusiformi, spirā acuminatā, anfractibus supernè depressè rotundato-angulatis, apicem versus concentricè tuberculatis, liris*

irregularibus undique cingulatis; columellā subexcavatā, lirā callosā parvā supernè munitā, aperturæ fauce sulcatā et crenatā; castaneo-fusco undique tinctā et variegatā, columellā et aperturæ fauce cærulescente-albis.

THE PAGODA BUCCINUM. Shell ovately fusiform, spire acuminate, whorls depressly rotundately angulated round the upper part, concentrically tubercled towards the apex, encircled throughout with irregular ridges; columella a little excavated, furnished at the upper part with a small callous ridge, interior of the aperture grooved and crenated; stained and variegated throughout with chesnut-brown, columella and interior of the aperture pale blueish white.

Hab. Island of Taboga, Bay of Panama (in clefts of the rocks at low water); Cuming.

An elegantly formed species of which Mr. Cuming only collected one or two specimens.

Species 51. (Fig. a, b, c. Mus. Cuming.)

BUCCINUM PROTEUS. *Buc. testā subfusiformi-ovatā, spirā subacutā, anfractibus longitudinaliter plicato-costatis, transversim creberrimè liris et striatis; columellā subexcavatā, supernè callositate parvā munitā, aperturæ fauce sulcatā et crenatā; albidā aut lutescente, fusco tinctā, zonā albidā medio formante, liris costas super fusco saturatoribus.*

THE PROTEAN BUCCINUM. Shell somewhat fusiformly ovate, spire sharp, whorls longitudinally plicately ribbed, transversely very closely ridged and striated; columella a little excavated, furnished with a small callosity at the upper part, interior of the aperture grooved and crenated, whitish or yellowish, stained with brown so as to leave a central white band, ridges stained with darker brown on crossing the ribs; lip tinged with orange.

Hab. Ceylon and the Philippine Islands.

Variety β. Fig. 51. b.

Testa undique vividè crocea.

Shell bright yellow throughout.

Hab. Australia.

The brown colouring of Var. α is much darker in some specimens than in others; in Var. β. from Australia the colour is one uniform delicate bright yellow



52



6.



BUCCINUM.

PLATE VIII.

Species 52. (Mus. Cuming.)

BUCCINUM AVELLANA. *Buc. testā subabbreviato-ovatā, crassā, solidā, spirā brevi, anfractibus supernè rudè plicato-nodosis; columellā subexcavatā, labro simplici; albidā, castaneo nigroque irregulariter tinctā et fasciatā, columellā et aperturæ fauce albis.*

THE FILBERT-NUT BUCCINUM. Shell somewhat abbreviately ovate, thick, solid, spire short, whorls rudely plicately noduled round the upper part; columella a little excavated, lip simple; whitish, irregularly stained and banded with chesnut and black, columella and interior of the aperture white.

Hab. North Coast of New Holland; Dring.

A heavy solid shell of rude structure and somewhat irregular style of painting.

Species 53. (Mus. Cuming.)

BUCCINUM CONTRACTUM. *Buc. testā subfusiformi, basi contractā et canaliculatā, canali subrecurvo; anfractibus transversim conspicuè elevato-striatis, longitudinaliter plicato-costatis, supernè angulatis, costis ad angulum nodosis, labro intus noduloso; ferrugineofusco variā, columellā et aperturæ fauce albis.*

THE CONTRACTED BUCCINUM. Shell somewhat fusiform, contracted and canaliculated at the base, canal slightly recurved; whorls transversely conspicuously elevately striated, longitudinally plicately ribbed, ribs nodose at the angle, lip nodose within; variegated with rusty brown, columella and interior of the aperture white.

Hab. Island of Samar, Philippines (in sandy mud at the depth of eight fathoms); Cuming.

On the left side of the last whorl is a fully developed varix, imparting a *Ranella*-like appearance to the shell which I have not noticed in the description fearing it may be of inconstant occurrence.

Species 54. (Mus. Cuming.)

BUCCINUM ANOMALUM. *Buc. testā gracili-fusiformi, spirā acutā, anfractibus longitudinaliter costatis, costis angustis, numerosis, transversim liratis, liris acutis, tenuibus, regularibus, labro intus minutè noduloso; rosaceo-*

albā, fuscescente fasciatim tinctā et maculatā, aperturæ fauce rosaceo-albā.

THE ANOMALOUS BUCCINUM. Shell slenderly fusiform, spire sharp, whorls longitudinally ribbed, ribs narrow, numerous, transversely ridged, ridges sharp, thin, regular, lip minutely noduled within; pink-white, stained and spotted in bands with light brown, aperture pink-white.

Hab. — ?

Partaking also of the character of both *Murex* and *Fusus*.

Species 55. (Mus. Cuming.)

BUCCINUM UNDOSUM. *Buc. testā ovatā, crassā, spirā acutā, anfractibus longitudinaliter subobsoletè plicatis, liris undosis conspicuis undique creberrimè cingulatis; columellā subexcavatā, aperturæ fauce sulcatā et crenatā; aurantio-albidā, liris olivaceo-nigris, columellā et aperturæ fauce albis, margine vividè aurantio-luteis.*

THE WAVED BUCCINUM. Shell ovate, thick, spire sharp, whorls longitudinally somewhat obsoletely plicated, very closely encircled throughout with conspicuous waved ridges; columella a little excavated, interior of the aperture grooved and crenated; orange-white, ridges olive-black, columella and interior of the aperture white, edge bright orange yellow.

Buccinum undosum, Linnæus, Syst. Nat. (12th. edit.) p. 1203.

Nassa undosa, Martini.

Triton undosum, Lamarck.

Variety, *Buccinum affine*, Gmelin.

Hab. Straits of Malacca; Australia; Philippine and Society Islands; Cuming.

The errors which M. Kiener has committed in reference to this ancient and well known species, have been so fully exposed by M. Deshayes, that it is unnecessary here to recur to them, except for the sake of noticing that the shell figured by him, under some new dogma, as a sexual variety characteristic of the female, appears to be the *B. gemmatum*, Sp. 49. found in a locality which the *B. undosum* does not inhabit. Lamarck referred the *B. undosum* to the genus *Triton* in consequence of having incidentally met with a specimen in which a varix had been deposited on the last whorl, in a manner similar to that just spoken of in the *B. contractum*, Sp. 43.

Species 56. (Mus. Cuming.)

BUCCINUM USTULATUM. *Buc. testā subfusiformi-ovatā, spirā acuminatā; anfractibus transversim undique creberrimè liratis, liris angustis, acutis, longitudinaliter rudè plicatis, leviter tuberculatis; albā, aurantio-fusco tinctā et maculatā, aperturæ fauce albā.*

THE SINGED BUCCINUM. Shell somewhat fusiformly ovate, spire acuminate; whorls transversely very closely ridged throughout, ridges narrow, sharp, longitudinally rudely plicated, slightly tubercled; white stained and spotted with orange brown, interior of the aperture white.

Hab. — ?

An interesting species of new form and colouring.

Species 56. (Mus. Metcalfe.)

BUCCINUM LIGNEUM. *Buc. testā ovatā, anfractibus transversim tenuè funiculatis, longitudinaliter varicosis, varicibus solidis, tuberculatis; aperturæ fauce sulcatā et crenatā; luteo-fuscescente, castaneo-fusco fasciatim maculatā, funiculis fuscis.*

THE WOODEN BUCCINUM. Shell ovate, whorls transversely finely corded, longitudinally varicose, varices solid, tuberculated; interior of the aperture grooved and crenated; yellowish brown, stained with bands of brown blotches, cords brown.

Hab. — ?

The longitudinal plicated growth of this shell is deposited in varices throughout the last whorl, partaking very much in this respect of the generic character of *Murex*.

Species 58. (Mus. Cuming.)

BUCCINUM INSIGNIS. *Buc. testā fusiformi-ovatā, subventricosā, anfractibus supernè leviter depressis, transversim undique irregulariter liratis et sulcatis; columellā supernè lirā callosā munitā, supra canaliculatā, aperturæ fauce sulcatā; albā, castaneo-fusco variegatā.*

THE REMARKABLE BUCCINUM. Shell fusiformly ovate, somewhat ventricose, whorls slightly depressed round the upper part, transversely irregularly ridged and grooved throughout; columella furnished at the upper part with a callous ridge, channelled above, interior of the aperture grooved; white, variegated with chesnut-brown.

Hab. St. Elena, West Columbia (in the clefts of rocks at low water); Cuming.

A fine species encircled throughout by grooves and ridges of a peculiar style of carving.

Species 59. (Mus. Cuming.)

BUCCINUM BALTEATUM. *Buc. testā subfusiformi-ovatā, spirā acutā, anfractibus transversim liratis, longitudinaliter creberrimè tuberculato-costatis, aperturæ fauce sulcatā; lutescente-albā, nigricante-fusco balteatā, costarum interstitiis supernè fusco tinctis.*

THE BELTED BUCCINUM. Shell somewhat fusiformly ovate, spire sharp, whorls transversely ridged, longitudinally very closely tubercularly ribbed, interior of the aperture grooved; yellowish-white, belted with blackish brown, interstices between the ribs stained with brown.

Hab. Torres Straits.

Distinguished by the frequency of the broad longitudinal ribs and characteristic style of painting.

Species 60. (Mus. Cuming.)

BUCCINUM AMYGDALA. *Buc. testā oblongo-ovatā, crassā, solidā, spirā brevi, acutā; anfractibus longitudinaliter obtusè costatis, transversim creberrimè incis, liris intermedii obtusis, subtilissimè squamatis; columellā supernè callosā et canaliculatā; aurantio-fuscescente, castaneo basi tinctā, columellā et aperturæ fauce aurantio-lacteis.*

THE ALMOND BUCCINUM. Shell oblong-ovate, thick, solid, spire short, acute; whorls longitudinally obtusely ribbed, transversely very closely cut, intermediate ridges obtuse and very finely scaled; columella callous and channelled at the upper part, orange brown, stained at the base with chesnut, columella and interior of the aperture orange cream colour.

Purpura amygdala, Kiener, Icon. coq. viv. pl. x. f. 26.

Hab. North coast of New Holland.

Very peculiar in form and general appearance, and easily distinguished by its minute squamate sculpture.

Species 61. (Mus. Metcalfe.)

BUCCINUM FUNICULATUM. *Buc. testā fusiformi, basi recurvā, anfractibus supernè subangulatis, longitudinaliter rudè costatis, costis ad angulum nodosis, transversim undique funiculatis; albidā, funiculis fuscescentibus, pone costas nigris.*

THE CORDED BUCCINUM. Shell fusiform, recurved at the base, whorls slightly angulated at the upper part, longitudinally rudely ribbed, ribs nodose at the angle, transversely corded throughout; whitish, cords brown, black behind the ribs.

Hab. — ?

Peculiar in having the corded ridges scarcely coloured except at the back of the ribs, where they are jet black.



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BUCCINUM.

PLATE IX.

Species 62. (Mus. Taylor.)

BUCCINUM COROMANDELIANUM. *Buc. testā ovatā, crassā, subcompressā, spirā breviusculā; anfractibus supernè depressis, infra nodoso-plicatis, transversim subtiliter liris et striatis, columellā labroque intus sulcatis et corrugatis; albidā, aurantio-fusco tinctā et maculatā.*

THE COROMANDEL BUCCINUM. Shell ovate, thick, somewhat compressed round the upper part, nodosely plicated beneath, transversely ridged and striated, lip and columella grooved and wrinkled within; whitish, stained and blotched with orange-brown.

LAMARCK, Anim. sans vert. (Deshayes' edit.) vol. x. p. 169.

Hab. Coromandel; Panama; Cuming.

The specimen here figured is remarkable for its bright blotches of colouring, the species generally having a much more sombre appearance.

Species 63. (Mus. Taylor.)

BUCCINUM LAUTUM. *Buc. testā ovatā, anfractibus transversim liris, liris conspicuis, angustis, subdistantibus, longitudinaliter fortiter costatis, costis nodosis; columellā labroque corrugatis et sulcatis; albā, rubro-aurantio costas super vividè maculatā.*

THE GAY BUCCINUM. Shell ovate, whorls transversely ridged, ridges conspicuous, narrow, rather distant, longitudinally strongly ribbed, ribs nodose; lip and columella wrinkled and grooved; white, vividly blotched with red-brown upon the ribs.

Hab. — ?

A prettily coloured species, in which the sculpture is developed with peculiar force.

Species 64. (Mus. Cuming.)

BUCCINUM FUSOIDES. *Buc. testā fusiformi, basi contortā et recurvā, spirā acuminatā; anfractibus medio obtusè angulatis, ad angulum eleganter nodosis, transversim creberrimè liris, liris subtilibus, leviter undulatis; fuscescente, fusco hic illic flammulatā.*

THE FUSUS-LIKE BUCCINUM. Shell fusiform, twisted and recurved at the base, spire acuminated; whorls obtusely angled in the middle, elegantly noded at the angle, transversely very closely ridged, ridges fine, slightly undulated; light brown, stained here and there with brown flames.

Hab. — ?

Of a character similar to that of the group figured in Plate II.

Species 65. (Mus. Taylor.)

BUCCINUM EFFUSUM. *Buc. testā ovato-conicā, tenui, inflatā, spirā breviusculā autem elevatā; anfractibus obscure planiliris et minutè striatis, labro simplici, effuso; castaneo-fuscā.*

THE EFFUSED BUCCINUM. Shell ovately conical, thin, inflated, spire rather short but elevated, whorls obscurely flatly ridged and minutely striated; lip simple, effused; chesnut-brown.

Hab. — ?

The ridges of this species are of quite a superficial character.

Species 66. (Mus. Taylor.)

BUCCINUM TESTUDINEUM. *Buc. testā ovatā, basi subcontortā, spirā subobtusā, anfractibus supernè depressiusculis, levigatis; cinereā, nigerrimo-fusco tessellatā et flammatā; columellā rufescente-aurantiā, aperturæ fauce purpureo-nigricante.*

THE TORTOISE-SHELL BUCCINUM. Shell ovate, somewhat twisted at the base, spire rather obtuse, whorls rather depressed at the upper part, smooth; ash-colour, tessellated and flamed with black-brown; columella reddish orange, interior of the aperture purple-black.

MARTYN, Universal Conch. vol. i. pl. 8.

Hab. New Zealand.

The *B. maculatum* has been regarded by most writers as a variety of this species, but M. Deshayes considers that the animals vary sufficiently with the shells to allow of their being separated.

Species 67. (Mus. Cuming.)

BUCCINUM MODIFICATUM. *Buc. testā subobeso-fusiformi, basi contortā et recurvā, anfractibus supernè subangulatis, ad angulum eleganter plicato-nodosis, transversim creberrimè liris, liris parvis, angustis, leviter undulatis; pallidè luteo-fuscescente.*

THE MODIFIED BUCCINUM. Shell somewhat stoutly fusiform, contorted and recurved at the base, whorls slightly angulated towards the upper part, elegantly plicately noded at the angle, transversely very

closely ridged, ridges small, narrow, slightly waved;
pale yellowish brown.

Hab. — ?

This is another species of the peculiar form of that
figured above it, and of those represented in Plate II.;
the detail of sculpture is the same in a modified form.

Species 68. (Mus. Taylor.)

BUCCINUM OBSCURUM. *Buc. testā pyramidali-ovatā, an-
fractibus supernè depressiusculis, lævigatis aut trans-
versim obscure liris; plumbeo-albicante, aperturæ
fauce purpureo-fuscā.*

THE OBSCURE BUCCINUM. Shell pyramidally ovate, whorls
rather depressed round the upper part, smooth or
transversely obscurely ridged, leaden white, interior
of the aperture purple-brown.

Hab. — ?

Having somewhat the general aspect of a *Planaxis*.

Species 69. (Mus. Cuming.)

BUCCINUM CYANEUM. *Buc. testā ovatā, tenui, subinflatā,
spirā breviusculā, lævigatā aut obscure incisā, labro*

*simplici, subeffuso; plumbeā, maculis perpaucis fuscis
oblongis tinctā, aperturæ fauce castaneo-fuscā.*

THE AZURE BUCCINUM. Shell ovate, thin, somewhat in-
flated, spire rather short, smooth or obsoletely en-
graved, lip simple, effused; lead colour, stained with
a very few transversely oblong spots, interior of the
aperture chesnut brown.

MULLER; Gray MSS. British Museum.

Hab. — ?

A light thin shell of a dull leaden colour exteriorly, and
of a deep chesnut interiorly.

Species 70. (Mus. Taylor.)

BUCCINUM CITRINUM. *Buc. testā ovatā, basi truncatā et
latè emarginatā, spirā breviusculā, anfractibus convexis,
lævigatis, ætate rugosis; columellā brevi, labro tenui,
simplici; pallidè luteo-aurantiā.*

THE CITRON-COLOURED BUCCINUM. Shell ovate, trun-
cated and widely emarginated at the base, spire rather
short, whorls convex, smooth, rough with age, colu-
mella short, lip thin, simple; pale yellowish orange.

Hab. — ?

Of rather an aberrant form, and which M. D'Orbigny
has, I believe, proposed for the type of a new genus.



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specimens slightly magnified

BUCCINUM.

PLATE X.

Species 71. (Mus. Cuming.)

BUCCINUM BILIRATUM. *Buc. testā fusiformi, basi subcontractā, leviter recurvā; anfractibus liris subtilibus binis undique cingulatis, interstitiis minutè cancellatis; labro crenato; lutescente, castaneo marmoratā.*

THE DOUBLE RIDGED BUCCINUM. Shell fusiform, somewhat contracted and a little recurved at the base; whorls encircled throughout by pairs of fine ridges, the interstices between which are minutely cancellated; lip crenated; yellow, marbled with chesnut.

Hab. Gallapagos Islands; Cuming.

An elegantly sculptured fusiform species with a varicose lip like the small Tritons.

Species 72. (Mus. Cuming.)

BUCCINUM CONCENTRICUM. *Buc. testā fusiformi, basi contortā, anfractibus crebrè concentricè costatis, costis liris acutis striisque decussatis, liris costas super mucronatis; carulescente-albā, rufo-fusco variegatā.*

THE CONCENTRIC BUCCINUM. Shell fusiform, a little twisted at the base, whorls closely concentrically ribbed, ribs crossed with sharp ridges and striæ, ridges pointed on the ribs; blueish white, variegated with red-brown.

Hab. — ?

The red-brown colouring is mostly in the interstices between the ribs.

Species 73. (Mus. Cuming.)

BUCCINUM NIGRICOSTATUM. *Buc. testā subfusiformi, basi recurvā, spirā acuminatā; anfractibus concentricè costatis, funiculis subtilibus undique cingulatis; aperturā parvā; olivaceo-luteā, costis nigris.*

THE BLACK-RIBBED BUCCINUM. Shell nearly fusiform, recurved at the base, spire acuminated; whorls concentrically ribbed, encircled throughout with fine cords; aperture small; olive yellow, ribs black.

Hab. Panama (under stones at low water); Cuming.

Easily to be recognized by its dark concentric ribs.

Species 74. (Mus. Cuming.)

BUCCINUM PICTUM. *Buc. testā elongato-ovatā, basi truncatā, tenuiculā, lævigatā, labro simplici, subeffuso; luteo-albicante, rufo-castaneo maculatā et flammatā.*

THE PAINTED BUCCINUM. Shell elongately ovate, truncated at the base, rather thin, smooth, lip simple, slightly effused; yellowish white, spotted and flamed with reddish chesnut.

Tritonium buccinum, Martini Conch. Cab. vol. iv. p. 72. pl. 127. f. 1217.

Hab. Island of Capul, Philippines (on the reefs); Cuming.

A smooth handsomely painted species, described by Martini in 1780, and since left in obscurity.

Species 75. (Mus. Cuming.)

BUCCINUM CINGULATUM. *Buc. testā acuminato-ovatā, basi leviter recurvā, lævigatā, aperturā parvā, labro subeffuso; plumbeo-fuscā, lineis nigris undique cingulatā.*

THE ENCIRCLED BUCCINUM. Shell acuminate ovate, slightly recurved at the base, smooth, aperture small, lip a little effused; leaden-brown, encircled throughout with black lines.

Hab. — ?

The lines which encircle this shell exist only in colour, but are nevertheless seen within the lip.

Species 76. (Mus. Cuming.)

BUCCINUM FASCICULATUM. *Buc. testā elongato-ovatā, basi truncatā, lævigatā, politā, obsoletè liratā, liris apicem versus distinctioribus; labro subincrassato, minutè crenulato; aurantiā, tæniis nigris angustis hic illic albi-punctatis regulariter cingulatā.*

THE FINELY-BANDED BUCCINUM. Shell elongately ovate, truncated at the base, smooth, polished, or obsoletely ridged, ridges more distinct towards the apex; lip rather thickened, minutely crenulated; orange, regularly encircled with narrow black fillets, dotted here and there with white.

Hab. Island of Mindanao, Philippines; Cuming.

The dark fillets of this beautiful species are elevated in ridges on the first one or two whorls, and gradually become obsolete towards the margin.

Species 77. (Mus. Cuming.)

BUCCINUM TRITONOIDES. *Buc. testā elongato-ovatā, subventricosā, basi truncatā, anfractibus lævibus, aut obsoletè transversim incis, labro subeffuso, crenulato; rufo undique maculatā et variegatā.*

December, 1846.

THE TRITON-SHAPED BUCCINUM. Shell elongately ovate, rather ventricose, truncated at the base, whorls smooth or obsoletely transversely engraved, lip somewhat effused, crenulated; blotched and variegated throughout with dark red.

Hab. Island of Ticao, Philippines; Cuming.

Allied in form to the species figured above it, but quite distinct in detail.

Species 78. (Mus. Cuming.)

BUCCINUM TÆNIATUM. *Buc. testā oblongo-ovatā, spirā brevissimā, anfractu ultimo peroblongo, transversim tenuissimè elevato-striato, columellā plano-excavatā, callositate parvā supernè munitā, labro intus minutè denticulato; castaneo-fuscā, taniis angustis fulvo-aurantiis regulariter cingulatā.*

THE FILLETED BUCCINUM. Shell oblong-ovate, spire very short, last whorl very oblong, transversely very finely elevately striated, columella flatly excavated, furnished at the upper part with a small callosity, lip minutely denticulated within; chesnut brown, regularly encircled with narrow fulvous orange fillets.

Purpura taniata, Powis, Proceedings Zool. Soc., 1835. p. 96.

Hab. Maldon Island, Pacific Ocean; Fremby.

I refer this species to *Buccinum* on account of the callosity and denticles at the upper extremity of the aperture.

Species 79. (Mus. Cuming.)

BUCCINUM VEXILLUM. *Buc. testā oblongo-ovatā, spirā brevissimā, acutā, anfractu ultimo peroblongo, lævigatā aut transversim minutissimè incisā; columellā plano-excavatā, callositate parvā supernè munitā, labro intus minutè denticulato; rufo-aurantiā, fasciis angustis nigris regulariter cingulatā.*

THE FLAG BUCCINUM. Shell oblong-ovate, spire very short, sharp, last whorl very oblong, smooth or very minutely transversely engraved; columella flatly excavated, furnished at the upper part with a small callosity, lip minutely denticulated within; reddish-orange, regularly encircled with narrow black bands.

Strombus vexillum, Chemnitz, Conch. Cab. vol. x. p. 222. pl. 157. f. 1504, 1505.

Purpura vexillum, Lamarck.

Cassidaria vexillum, Kiener.

Hab. Island of Ticao, Philippines; Cuming.

Authors have been somewhat divided as to the generic situation of this singular species, which I have referred to *Buccinum* for the same reason given in reference to the preceding. M. Kiener's appropriation of it is inconsistent.



BUCCINUM.

PLATE XI.

Species 80. (Mus. Cuming.)

BUCCINUM PULCHRUM. *Buc. testā ovatā, medio gibbosā, utrinque attenuatā, anfractibus longitudinaliter fortiter tuberculato-costatis, transversim striatis, costas super latis, labro intus denticulato; cæruleo-olivaceā.*

THE PRETTY BUCCINUM. Shell ovate, gibbous in the middle, attenuated at both ends, whorls longitudinally strongly tubercularly ribbed, transversely striated, ridged across the summit of the ribs; lip denticulated within; blueish olive, banded with black, short ridges white, interior of the aperture violet.

Hab. Gallapagos Islands; Cuming.

The colouring of this species is very characteristic; a livid olive or green crossed by narrow black bands passing between short white ridges surmounting the ribs.

Species 81. (Mus. Metcalfe.)

BUCCINUM SOLIDUM. *Buc. testā ovatā, crassā, solidā, basi leviter recurvā, spirā acuminatā; anfractibus rotundatis obscure plicato-costatis, transversim subobsoletè latis, interstitiis minutissimè incisis; aperturā parvā, faucē sulcatā; sordidè albā, maculis quadratis nigris inter costas uniseriatim cinctā, aperturæ faucē luteā.*

THE SOLID BUCCINUM. Shell ovate, solid, slightly recurved at the base, spire acuminated; whorls rounded, obscurely plicately ribbed, transversely rather obsoletely ridged, interstices very minutely engraved; aperture small, interior grooved; dead white, encircled with a single row of square black spots between the ribs, interior of the aperture yellow.

Hab. Island of Capul, Philippines; Cuming.

Easily recognised by the central row of square black spots; the columella is obscurely plaited, presenting a link with *Turbinellus*.

Fig. 82 proves on further examination to be identical with Sp. 54. For Sp. 82 see Plate XIII.

Species 83. (Mus. Cuming.)

BUCCINUM RAPULUM. *Buc. testā oblongo-ovatā, solidiusculā, basi contractā, contortā et recurvā, lævigatā, basi striatā; albā, epidermide lutescente indutā.*

THE LITTLE TURNIP BUCCINUM. Shell oblong-ovate,

rather solid, contracted, twisted and recurved at the base, smooth, striated at the base; white, covered with a yellowish epidermis.

Hab. Malacca.

A stout smooth shell of a form rather foreign to the present genus, though irreferable to any other.

Species 84. (Mus. Cuming.)

BUCCINUM CINIS. *Buc. testā pyramidalis-ovatā, basi leviter recurvā, anfractibus granulis rugosis undique seriatim decussatis, aperturæ faucē sulcatā, supernè callositatibus munitā; cærulescente-albā, granulis atris.*

THE CINDER BUCCINUM. Shell pyramidally ovate, slightly recurved at the base, whorls decussated throughout with rows of rough granules, interior of the aperture grooved, furnished with callosities at the upper part; blueish white, granules jet black.

Hab. Gallapagos Islands (under stones); Cuming.

The granules of this shell impart a rough touch to it, resembling that of a coal cinder.

Species 85. (Mus. Cuming.)

BUCCINUM MACULOSUM. *Buc. testā ovatā, crassā, lævigatā, transversim tenuissimè et creberrimè incisā; columellā minutè denticulatā, supernè callosā, labro intus denticulato; olivaceo-fuscā, albo profusè et irregulariter strigatā et maculatā.*

THE SPOTTED BUCCINUM. Shell ovate, rather thick, smooth, transversely very finely and closely engraved; columella minutely denticulated, callous at the upper part, lip denticulated within; olive-brown, profusely and irregularly streaked and spotted with white.

LAMARCK, Anim. sans vert. (Deshayes' edit.), vol. x. p. 164. *Voluta striata*, Gmelin.

Purpura variegata, Schubert and Wagner.

Purpura Gualtieri, Scacchi.

Purpura maculosa, De Blainville, Kiener.

Eadem, varietas fasciolata.

Purpura fasciolaris, Lamarck.

Hab. Mediterranean.

Dr. Philippi has expressed his opinion in 'Wiegman's Archives', that this species is without doubt (absque ullo dubio) the *Buccinum pusio* of Linnaeus; I have, however,

through the kindness of Mr. Hanley in drawing my attention to it, identified that species with Lamarck's *Fusus articulatus* by an examination of the very specimen, in the collection of our Linnæan Society, from which the diagnose in the 'Systema Naturæ' was drawn up. It is a specimen of immature growth, in which the dark spots are disposed in longitudinal streaks, in a manner very similar to a figure of the species in Bonanni, to which Linnæus refers. Gmelin appears to have been the first to notice the *B. maculosum* under the title of *Voluta striata*, a name which cannot be used as a specific with the present genus, in consequence of its having been already made use of by his predecessors Martyn and Gronovius. M. Deshayes quotes the *Voluta Syracusana* of Gmelin as synonymous with the present species; but this is unsatisfactory inasmuch as Gmelin refers to the same figure in Bonanni, beyond doubt Lamarck's *F. articulatus*, as Linnæus does for the *B. pusio*, and his description agrees with that species although it is equally unfavourable in respect of locality.

Species 86. (Mus. Cuming.)

BUCCINUM DISTORTUM. *Buc. testâ ovatâ, crassissimâ, ponderosâ, spirâ brevi, desessâ; anfractibus lævibus, apicem versus sulcatis et nodosis, ultimo basi inciso, supernè rotundato, distortè elevato, ad aperturam in alam sinuatam extenso; columellâ subexcavatâ, corrugatâ, labro intus sulcato; albâ, castaneo-fusco profusè tinctâ et variegatâ.*

THE DISTORTED BUCCINUM. Shell ovate, very thick, ponderous, spire short, sunken; whorls smooth, grooved and noded towards the apex, last whorl engraved, rounded at the upper part, distortedly elevated, extended at the aperture into a kind of sinuated wing; columella a little excavated, wrinkled, lip grooved within; white, profusely stained and variegated with chesnut brown.

GRAY, Wood's Index Test. Supp. pl. 4. f. 7.

Hab. Punto, St. Elena, West Columbia; Cuming.

A species of curiously distorted growth, reminding one very much of the remarkable *Turbinella*-like shell described by Mr. Hinds in the 'Zoology of the Sulphur' as the type of a new genus, under the name of *Cyrtulus*.

Species 87. (Mus. Cuming.)

BUCCINUM LIVIDUM. *Buc. testâ subfusiformi-ovatâ, an-*

fractibus transversim creberrimè elevato-striatis, medio angulatis, ad angulum compressè nodosis; labro intus denticulato; livido-fuscâ, variegatâ, aperturæ fauce fuscâ.

THE LIVID BUCCINUM. Shell somewhat fusiformly ovate, whorls transversely very closely elevately striated, angulated in the middle, compressly nodose at the angle; lip denticulated within, livid brown, variegated interior of the aperture brown.

Hab. Island of Negros, Philippines; Cuming.

This and the following species belong rather to the denticulated group which I have introduced under the head of *Ricinuia*.

Species 88. (Mus. Cuming.)

BUCCINUM BIMUCRONATUM. *Buc. testâ ovatâ, subfusiformi, anfractibus transversim rudè liris, medio angulatis, ad angulum biserialim nodosis, nodis acutè mucronatis; labro intus denticulato; cinereo-fuscâ.*

THE DOUBLE-POINTED BUCCINUM. Shell ovate, somewhat fusiform, whorls transversely rudely ridged, angulated in the middle, encircled with two rows of sharp pointed nodules at the angle; lip denticulated within; ashy brown.

Hab. Philippines; Cuming.

A stouter shell than the preceding, and more sharply noded.

Species 89. (Mus. Cuming.)

BUCCINUM PASTINACA. *Buc. testâ ovatâ, crassiusculâ, spiræ suturis excavatis, anfractibus rotundatis, longitudinaliter creberrimè plicato-costatis, costis latiusculis, liris transversis acutis decussatis; columellâ minutè corrugatâ, aperturâ subrotundâ, fauce sulcatâ; albâ, epidermide flavescente indutâ.*

THE PARSNIP BUCCINUM. Shell ovate, rather thick, sutures of the spire excavated, whorls rounded, longitudinally very closely plicately ribbed, ribs rather broad, crossed with sharp transverse ridges; columella minutely wrinkled, aperture nearly round; white, covered with a yellowish epidermis.

Hab. Bay of Montija, West Columbia; Cuming.

A distinct varix is formed at the lip of this shell after the manner of some of the *Tritons*.



90



91a



91b



92



93



94



95



96



97



98

BUCCINUM.

PLATE XII.

Species 90. (Mus. Cuming.)

BUCCINUM ASSIMILE. *Buc. testā ovatā, parvā, transversim creberrimè liriatā, longitudinaliter subobsoletè concentricè costatā; lutescente, purpureo-fusco variegatā.*

THE SIMILAR BUCCINUM. Shell ovate, small, transversely very closely ridged, longitudinally rather obsoletely concentrically ribbed; yellowish, variegated with purple-brown.

Hab. — ?

Very closely allied to the *B. D'Orbignyi* of the Mediterranean, but seemingly distinct.

Species 91. (Mus. Cuming.)

BUCCINUM OBLIQUICOSTATUM. *Buc. testā fusiformi, basi subrecurvā, longitudinaliter obliquè et creberrimè costatā, costis liris parvis decussatis; labro incrassato; fusco-rufā, liris transversis subalbidis.*

THE OBLIQUELY RIBBED BUCCINUM. Shell fusiform, recurved at the base, longitudinally obliquely and very closely ribbed, ribs crossed with small ridges; lip thickened; brown-red, transverse ridges whitish.

Hab. Island of Ticao, Philippines; Cuming.

The first of a peculiar fusiform group of which the species represented at Fig. 95, 96 and 97 also belong.

Species 92. (Mus. Cuming.)

BUCCINUM DIRUM. *Buc. testā fusiformi, basi leviter recurvā, anfractibus rotundatis, striis rugosis conspicuis elevatis undique cingulatis, apertura fauce sulcatā; intus extusque sordidè fuscā.*

THE DISMAL BUCCINUM. Shell fusiform, slightly recurved at the base, whorls rounded, encircled throughout with conspicuous elevated rough striæ, interior of the aperture grooved; dull brown within and without.

Hab. — ?

The striæ with which the entire surface of this species is engraved almost assume the character of fine ridges.

Species 93. (Mus. Taylor.)

BUCCINUM EBURNEUM. *Buc. testā pyramidalī-ovatā, spirā acutā, anfractibus supernè concavis, ad angulum nodosis, infra obscurè liratis, aperturā breviusculā; intus extusque eburneā, epidermide viridi-luteā indutā.*

THE IVORY BUCCINUM. Shell pyramidally ovate, spire sharp, whorls concave round the upper part, nodose at the angle and obscurely ridged beneath, aperture rather short; ivory white within and without, covered with a greenish yellow epidermis.

Hab. — ?

A pure white pyramidal shell.

Species 94. (Mus. Taylor.)

BUCCINUM LITTORINOIDES. *Buc. testā fusiformi, basi subrecurvā, lævigatā, labro simplici; olivaceo-fuscā, obscurè lineatā, apertura fauce pallidè carneā.*

THE PERIWINKLE-LIKE BUCCINUM. Shell fusiform, a little recurved at the base, smooth, lip simple; olive-brown, obscurely lineated, interior of the aperture pale flesh-colour.

Hab. New Zealand; Earl.

A smooth sombre looking shell encircled with faint lines.

Species 95. (Mus. Cuming.)

BUCCINUM MARMORATUM. *Buc. testā subelongato-fusiformi, basi recurvā; anfractibus convexis, liris subtilibus obtusis granosis longitudinalibus et transversis decussatis; rosaceo-albā, rubido-fusco conspicuè marmoratā.*

THE MARBLE BUCCINUM. Shell somewhat elongately fusiform, recurved at the base; whorls convex, crossed throughout with fine obtuse granulated ridges; pinkish white, conspicuously marbled with reddish-brown.

Hab. Island of Capul, Philippines; Cuming.

An interesting species constituting the type of a section of the genus, of which the two following form part.

Species 96. (Mus. Cuming.)

BUCCINUM GRACILE. *Buc. testā gracili-fusiformi, basi canaliculatā et recurvā; anfractibus medio subangulatis, liris granosis obtusis longitudinalibus et transversis decussatis, labro intus minutè denticulato; albidā, granorum seriebus longitudinalibus aurantio-fuscis.*

THE SLENDER BUCCINUM. Shell slenderly fusiform, channelled and recurved at the base; whorls a little angulated in the middle, crossed by longitudinal and

December, 1846.

transverse obtuse granose ridges, lip minutely denticulated within; whitish, longitudinal rows of granules orange-brown.

Hab. Island of Masbate, Philippine Islands, (under stones at low water); Cuming.

The granules at the angle are more prominent than the rest, and of rather darker colour.

Species 97. (Mus. Cuming.)

BUCCINUM CROCATUM. *Buc. testā subelongato-fusiformi, basi canaliculatā et recurvā, longitudinaliter creberrimè plicatā, transversim granoso-liratā, labro intus minutè denticulato; croceo-aurantiā, hic illic albigulatā, striis inter liras aurantio-fusco saturatiore.*

THE SAFFRON-COLOURED BUCCINUM. Shell somewhat elongately fusiform, channeled and recurved at the base, longitudinally very closely plicated, transversely granosely ridged, lip minutely denticulated within; saffron-orange, specked here and there with white, striæ between the ridges of a darker orange brown.

Hab. Island of Capul, Philippines; Cuming.

More deeply coloured than either of the preceding species of this form.

Species 98. (Mus. Cuming.)

BUCCINUM TRILINEATUM. *Buc. testā abbreviato-fusiformi, basi subrecurvā, anfractibus apicem versus plicato-nodosis, ultimo lavigato, aperturā subcontractā, fauce sulcatā; albidā, fasciis duabus, utrāque lineis tribus cinereo-nigris compositā, cingulatā,*

THE THREE-LINED BUCCINUM. Shell shortly fusiform, a little recurved at the base, whorls plicately noded towards the apex, last whorl smooth, aperture somewhat contracted, interior grooved; whitish, encircled by two bands each of which is composed of three ashy-black lines.

Hab. —?

Easily recognised by the bands of lines which are scarcely sufficiently distinguished in the figure.



101



102



103



104



105



106



107



108



109

BUCCINUM.

PLATE XIII.

Species 47. (Fig. Kiener.)

BUCCINUM DISCOLOR. *Buc. testā parvā, Olivæformi, violaceo-griseā, transversim tenuissimè striatā, spirā acutā, supernè plicis longitudinalibus distinctā; anfractibus convexiusculis; aperturā cinereā, ovatā; columellā lævi; labro dextro denticulato, intus plicato.*

THE DISCOLOURED BUCCINUM. Shell rather small, Olive-shaped, violet grey, transversely very finely striated, spire sharp, distinguished at the upper part by longitudinal plaits; whorls rather convex; aperture ash-colour, ovate; columella smooth; right lip denticulated, plaited within.

QUOY, and GAIMARD, Voy. de l'Astrol. pl. 30. f. 23, 25.
Hab. Island of Tonga-Tabou.

As this species has a characteristic appearance I venture to copy M. Kiener's figure and description of it; it is quite unknown to me.

Species 100. (Fig. Kiener.)

BUCCINUM BLAINVILLII. *Buc. testā ovatā, elongatā, albescente; spirā acutā, cancellatā, costulis longitudinalibus et striis transversis decussatā; anfractibus angustis, in medio carinatis; aperturā ovatā, violascente; columellā rufescente; labro dextro intus tenuè striato.*

BLAINVILLE'S BUCCINUM. Shell ovate, elongated, whitish, spire sharp, cancellated, decussated with fine longitudinal ribs and transverse striæ; whorls narrow, keeled in the middle; aperture ovate, pale violet; columella reddish; right lip finely striated within.

DESHAYES, Voy. Bellanger aux Indes Orientales.

Buccinum textum, Wood.

Buccinum cancellatum, Quoy and Gaimard.

Hab. Malabar.

This species I insert also on the authority of M. Kiener.

Species 101. (Mus. Cuming.)

BUCCINUM CINGILLUM. *Buc. testā ovatā, spirā breviusculā, spiræ suturis subprofundis; anfractibus convexis, creberrimè undiquè tenuisulcatis, aperturā oblongā; labro intus denticulato; rufo-castaneā, zonulā angustā albā medio cinctā.*

THE LITTLE GIRDLE BUCCINUM. Shell ovate, spire

rather short, sutures of the spire rather deep, whorls convex, very closely finely grooved throughout; aperture oblong, lip denticulated within; reddish chesnut, encircled round the middle with a narrow white zone.

Hab. — ?

It should perhaps be observed that there is a small callosity at the upper part of the columella.

Species 102. (Mus. Cuming.)

BUCCINUM FERREUM. *Buc. testā acuminato-turritā, subfusiformi, anfractibus rotundatis, supernè leviter sulcatis; columellā subcontortā, aperturæ fauce radiatim tenuiliratā; cinereo-fuscā, nigro obscurè spiraliter lineatā.*

THE IRON BUCCINUM. Shell acuminate turreted, somewhat fusiform, whorls rounded, slightly grooved round the upper part; columella slightly twisted, interior of the aperture rayed with fine ridges; ashy-brown, obscurely spirally lineated with black.

Hab. — ?

A smooth polished shell of an ashy slate colour, obscurely lineated throughout.

Species 103. (Mus. Cuming.)

BUCCINUM HYDROPHANUM. *Buc. testā oblongo-ovatā, tenui, subhyalinā, epidermide tenui virescente partim indutā; spirā productā, anfractibus rotundatis, lævibus aut tenuissimè concentricè striatis; columellā brevi, subtruncatā; cinereā aut livido-cærulescente, intus vividè ferrugineo-castaneā.*

THE HYDROPHANOUS BUCCINUM. Shell oblong-ovate, thin, somewhat hyaline, partially covered with a thin pale green epidermis; spire produced, whorls rounded, smooth or very finely concentrically striated; columella short, somewhat truncated; ash colour or livid blue, bright ferruginous chesnut within.

HANCOCK, Ann. and Mag. Nat. Hist. vol. xviii. p. 325.

Hab. West Coast of Davis's Strait; Warham and Harrison.

A thin bright ferruginous brown shell more or less enveloped with that livid chalky coating, permeable to water, which is in a manner peculiar to Arctic species.

February, 1847.

Species 104. (Mus. Cuming.)

BUCCINUM PYRAMIDALE. *Buc. testā acuminato-turritā, spirā valdē productā; anfractibus supernè fortiter obliquè plicatis et corrugatis, aperturā breviusculā; albidā, ferrugineo-luteo tinctā.*

THE PYRAMIDAL BUCCINUM. Shell acuminately turreted, spire very much produced; whorls strongly obliquely plicated and wrinkled round the upper part; aperture rather short; whitish, stained with rusty yellow.

Hab. — ?

This appears to be distinct from any of the numerous varieties of *B. undatum*.

Species 105. (Mus. Cuming.)

BUCCINUM TUBULOSUM. *Buc. testā ovato-turritā, spirā acuminatā, valdē productā; anfractibus rotundatis, e suturis fortiter plicatis, transversim creberrimè tenuiliratis; aperturā brevi, rotundatā; luteo-fuscā, aperturæ fauce albidā, aurantio tinctā.*

THE TUBULOUS BUCCINUM. Shell ovately turreted, spire acuminate, very much produced; whorls rounded, strongly plaited from the sutures, transversely very closely finely ridged; aperture short, rounded; yellowish-brown, interior of the aperture whitish, tinged with orange.

Hab. — ?

Distinguished by the rounded tubular structure of the whorls.

Species 106. (Fig. Kiener.)

BUCCINUM DELALANDII. *Buc. testā ovato-oblongā, sub-turriculatā, cinereā, transversim tenuissimè striatā, fasciis longitudinalibus undulatis; spirā acutā; aperturā ovato-oblongā; labro lævi, albo, dilatato, intus striato, rubescente; epidermide virescente.*

DELALAND'S BUCCINUM. Shell ovately oblong, somewhat turriculated, ash colour, transversely very finely striated, with waved longitudinal bands; spire sharp, aperture ovately-oblong; lip smooth, white, dilated,

striated within, reddish; covered with a greenish epidermis.

KIENER, *Icon. coq. viv.* p. 15. pl. 5. f. 15.

Hab. Cape of Good Hope.

This is another species described and figured by M. Kiener as here represented, which is unknown to me; his reference to Chemnitz however is certainly incorrect.

Species 107. (Fig. Kiener.)

BUCCINUM QUOYI. *Buc. testā ovato-oblongā, fulvā, transversim plurimum longitudinaliter tenuissimè striatā; spirā acutā; columellā prominulā; aperturā ovaliformi, rubescente; labro arcuato, internè striato.*

QUOY'S BUCCINUM. Shell ovately oblong, fulvous, transversely very numerous and finely longitudinally striated; spire sharp; columella prominent; aperture oval-shaped, reddish; lip arched, striated internally.

KIENER, *Icon. coq. viv.* p. 16. pl. 5. f. 13.

Hab. New Zealand.

Also transcribed and illustrated from M. Kiener's 'Iconographie', as a characteristic looking species with which I am not acquainted.

Species 108. (Mus. Cuming.)

BUCCINUM ÆTHIOPS. *Buc. testā ovatā, spirā breviusculā, anfractibus supernè latè plano-depressis, regulariter costatis, costis grandibus convexis interstitiis latiusculis, excavatis; columellā et aperturæ fauce subcorrugatis aut liratis; albā, epidermide corneā anthracinā indutā.*

THE BLACKAMOR BUCCINUM. Shell ovate, spire rather short, whorls broadly flatly depressed round the upper part, regularly ribbed, ribs large, convex, interstices rather broad, excavated; columella and interior of the aperture somewhat wrinkled and ridged; white, covered with a coal-black horny epidermis.

Hab. — ?

A remarkable species approximating in form and general character to the *Purpura trochlea* and its congeners.



109



110



111



112



113



114



115

BUCCINUM.

PLATE XIV.

Species 109. (Mus. Cuming.)

BUCCINUM GLANDIFORME. *Buc. testā abbreviato-ovatā, anfractibus supernè concavo-depressis, deinde conspicuè nodosis, infra undique striatis; albidā, cæruleo-plumbeo tinctā, zonulā angustā cinereo-nigricante prope nodulos, columellā et aperturae fauce cinereo-purpureis.*

THE ACORN-SHAPED BUCCINUM. Shell abbreviately ovate, whorls concavely depressed round the upper part, then conspicuously noded, striated throughout beneath; whitish, stained with blueish lead-colour, with a narrow ashy black zone near the nodules, columella and interior of the aperture ashy purple.

Hab. — ?

The edge of the lip is slightly sinuated on the nodulous angle.

Species 110. (Mus. Cuming.)

BUCCINUM CORRUGATUM. *Buc. testā oblongo-ovatā, anfractibus transversim striatis, striis basem versus fortioribus, supernè obliquè corrugatis; pallidè spadiceā.*

THE WRINKLED BUCCINUM. Shell oblong-ovate, whorls transversely striated, striae stronger towards the base, obliquely wrinkled round the upper part; light bay colour.

Hab. — ?

Peculiarly characterized by the oblique concentric wrinkles.

Species 111. (Mus. Cuming.)

BUCCINUM RUGATUM. *Buc. testā fusiformi-ovatā, spirā acutā, transversim undique elevato-striatā, longitudinaliter irregulariter varicosā; albidā aut fusciscente.*

THE WRINKLED BUCCINUM. Shell fusiformly ovate, spire transversely elevatedly striated throughout, longitudinally irregularly varicose; whitish or light brown.

Hab. — ?

A peculiarly formed species in which the varicose growth does not appear to be of accidental occurrence.

Species 112. (Mus. Cuming.)

BUCCINUM CRETACEUM. *Buc. testā acuminato-pyramidalī,*

subfusiformi, anfractibus rotundatis, lævibus concentricè plicatis; cretaceo-albā, fusciscente tinctā.

THE CHALKY BUCCINUM. Shell acuminately pyramidal, somewhat fusiform, whorls rounded, smooth, concentrically plicated; chalky-white, tinged with pale brown

Hab. — ?

Of simple structure, but clearly distinct from any previously described species.

Species 113. (Mus. Cuming.)

BUCCINUM CANCELLARIOIDES. *Buc. testā ovato-fusiformi, tenuiculā, anfractibus supernè rotundatis, concentricè plicato-costatis, transversim incisis; lutescente.*

THE CANCELLARIA-LIKE BUCCINUM. Shell ovately fusiform, rather thin, whorls rounded at the upper part, concentrically plicately ribbed, transversely engraved; yellowish.

Hab. — ?

Peculiar in form and neatly sculptured.

Species 114. (Mus. Hancock.)

BUCCINUM SERICATUM. *Buc. testā globoso-ovatā, tenuiculā, spirā brevi; anfractibus rotundatis, spiraliter striatis, columellā arcuatā, labro subeffuse; pallidè castaneā, epidermide sericeā virescente partim indutā.*

THE SILK-CLAD BUCCINUM. Shell globosely ovate, rather thin, spire short; whorls rounded, spirally striated, columella arched, lip somewhat effused; pale chesnut, partially covered with a light green silken epidermis.

HANCOCK, Ann. and Mag. Nat. Hist. vol. xviii. p. 328 pl. 4. f. 7.

Hab. West Coast of Davis's Strait; Warham and Harrison.

This species is unknown to me, but I can have no hesitation in inserting it on the authority of Mr. Hancock.

Species 115. (Mus. Cuming.)

BUCCINUM TORTUOSUM. *Buc. testā fusiformi, subtubulosā, tenui, lævi, concentricè indistinctè et irregulariter plicatā, basi peculiariter canaliculatā et contractā; aperturā parvā, lutescente-albā.*

THE TWISTED BUCCINUM. Shell fusiform, somewhat tubulous, thin, smooth, concentrically indistinctly and

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irregularly plicated, peculiarly channelled and contracted at the base; aperture small; yellowish white.

Hab. — ?

A light delicate species in which the whorls are of a tubulous *Scalaria*-like growth.

Species 116. (Mus. Cuming.)

BUCCINUM LINEARE. *Buc. testā ovatā, crassiusculā, lævigatā, spirā brevi, acutā; anfractibus supernè subcompressis; columellā arcuatā, supernè callosā; cinereo-ant viridescente-fuscā, lineis nigris inæqualibus undique conspicuè cingulatā, columellā albidā, aperturæ fauce purpureo-cinereā.*

THE LINE-DRAWN BUCCINUM. Shell ovate, rather thick, smooth, spire short, acute; whorls somewhat compressed round the upper part; columella arched, callous above; ash or greenish brown, conspicuously encircled throughout with unequal black lines, columella whitish, interior of the aperture purple ash.

Hab. — ?

A very characteristic species of solid growth not much unlike the common periwinkle in general aspect.

Species 117. (Mus. Cuming.)

BUCCINUM LACTEUM. *Buc. testā oblongo-ovatā, spirā acutā, anfractibus supernè concavo-impressis; columellā arcuatā, aperturæ fauce radiatim liratā; lacteo-cæruleā, lineis nigricantibus obscure notatā, aperturæ fauce luteā, purpureo-fusco tinctā, liris radiantibus albis.*

THE MILKY BUCCINUM. Shell oblong-ovate, spire sharp, whorls concavely impressed round the upper part;

columella arched, interior of the aperture radiately ridged; milky-blue, marked with obscure black lines, interior of the aperture yellow, stained with purple-brown, radiating ridges white.

Hab. — ?

This shell is enveloped by a milky coating through which a dark layer of colouring is discovered; the aperture exhibits a great deal of character, being of a pale yellow ground, distinguished by a rich purple-brown stain over which the radiating ridges are white.

Species 118. (Mus. Hancock.)

BUCCINUM GRÆNLANDICUM. *Buc. testā oblongo-ovatā, tenui, subventricosā, anfractibus supernè leviter angulatis, bicarinatis, longitudinaliter subobscurè plicatis, plicis carinas super nodulosas; columellā subindistinctè plicatā, labro subeffuso; rufescente-spadiceā, epidermide viridi-flavā partim indutā.*

THE GREENLAND BUCCINUM. Shell oblong-ovate, thin, somewhat ventricose, whorls slightly angulated round the upper part, two-keeled, longitudinally somewhat obscurely plicated, plaits nodulous in crossing the keels; columella somewhat indistinctly plaited, lip slightly effused; pale reddish fawn colour, partially covered with a greenish yellow epidermis.

HANCOCK, Ann. and Mag. Nat. Hist. vol. xviii. p. 322. pl. 5. f. 8, and 9.

Hab. West Coast of Davis's Strait; Warham and Harrison.

Another of the interesting additions made to this genus by Mr. Hancock through the dredging exertions of Messrs. Warham and Harrison of Newcastle on Tyne, in the locality above quoted.

BUCCINUM.

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	Plate.	Species.		Plate.	Species.
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BUCCINUM.

	Species.	Plate.		Species.	Plate
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ERRATA.

Plate V. Sp. 29,—for *B. ciliatum*, read *B. Molleri*.

Sp. 38,—for *B. pluriannulata*, read *B. pluriannulatum*.

Plate IX. Sp. 64,—for *B. Fusoides*, read *B. spadiceum*.

